PREHISTORIC BALUCHISTAN

JIM G SHAFFER

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PREHISTORIC BALUCHISTAN

(With Excavation Report on Said Qala Tepe)

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1978
Published on behalf of Indian Society
for
Prehistoric and Quaternary Studies

BR B·R·Publishing Corporation

Shaffer, Jimmie Gray, 1944–
Prehistoric Baluchistan : with excavation report on Said Qala Tepe / Jim G. Shaffer. — Delhi : B.R. Pub. Corp., on behalf of Indian Society for Prehistoric and Quaternary Studies ; New Delhi : distributed by D.K. Publishers' Distributors, 1978.
xx, 195, [4] p. : ill., maps ; 25 cm. — (ISPQS' history & archaeology series ; v. 3)
A revision of the author's thesis, University of Wisconsin, 1972.
Bibliography: p. [183]–195.
Rs100.00 ($20.00)

1. Baluchistan—Antiquities. 2. Civilization, Indic. 3. Archaeology. 4. India—History. I. Title. II. Series.

913.340310285
V4432:7'A L8
DK-77D-10977

State Museum Library
Lucknow

4906

First Published 1978

© JIM G. SHAFFER I.S.P.Q.S.

Published by : B·R·Publishing Corporation
461, Vivekanand Nagar, Delhi-110052

Distributed by : D.K. PUBLISHERS' DISTRIBUTORS
1, Ansari Road, Darya Ganj,
New Delhi-110002 Phone : 274819

Printed by : Mudran Kala Sewa Sansthan
at Vishal Printers,
2/34, Roop Nagar.
Delhi-110007

To Charles A. and Virginia V. Shaffer who made
it all possible; and to Diane A. Lichtenstein
who helped it happen.

GENERAL EDITORS' NOTE

The Indo-Pakistan borderlands, mainly Baluchistan, is a veritable heaven for the archaeologists' spade to turn out artifacts and propound theories on the origin and development of the Harappan culture. This area has been traversed time and again by explorers, almost from the second quarter of this century and is still a happy hunting ground for many more to come. From Sir Aurel Stein to our present author, intensive work had been carried out here. Apart from the pioneers, De-Cardi, Fairservis, Dales, Gordon, Casal, Dani are a few who have helped understanding the manifold 'local cultures' of the region. Yet no serious attempt to collate the regional variations to form an integrated whole has been successfully attempted. Piggott, who was the first to see some clarity from the chaos, falls short of our present day expectations. Fairservis, Jarrige and Mughal too, have attempted to see light through the dim darkness.

Here, in this book, Shaffer, with his anthropological background, besides presenting original data from his excavations at Said Qala Tepe, has made an excellent study of the ceramics of the region. His 'Interpretations and Conclusions' is based on a 'Systematic Model' involving the study of 'Adaptive areas', 'Traditions'-artifactual and material culture-and 'Interaction Spheres', where trade and religion play an important role. This approach is very much welcome.

The Indian Society for Prehistoric and Quaternary Studies is very happy to present Shaffer's findings to the world of archaeologists. The Society is beholden to him. Grateful thanks are due to the publishers, B R. Publishing Corporation, and Mudran Kala Sansthan, the Printers. Thanks are also due to Shri M.S. Mani for the illustrations.

S. P. GUPTA
K.S. RAMACHANDRAN

Ist January, 1978
National Museum,
Janpath,
New Delhi

FOREWORD

The prehistory of the Indo-Iranian Borderlands is obviously of seminal importance to any understanding of the origin of the Harappan civilization and indeed of the advent of civilization itself on the subcontinent. It is therefore something of a pity that little intensive, ongoing archaeological research has gone on there over the past thirty years. Any effort to synthesize the late prehistoric evidence known for the region must largely rely on the fieldwork of the pioneers in the field whose efforts in terms of modern methodologies are often frustratingly inadequate. To give examples: Stein, Hargreaves, and Majumdar tended to run horizontal trenches into sites, thus stratigraphic position was too often lost; Brigadier Ross at Rana Ghundai dutifully plucked potsherds out of the site in vertical order but left no sense of occupational context; de Cardi with limited means went much beyond Ross in this regard but could nowhere extend her excavations to reveal in detail the broader occupational features. Casal at Mundigak had both the means and the time to complete his excavations and thus provides us with the more reliable body of evidence, but this too is qualified by selective techniques.

As to my own work in the Borderlands, something I hope which is not yet terminated, there is much and there is little that can be said. My use of seriation as we then understood it has again and again been put under critical fire. Piggott, for example, rejected it entirely; Dales misunderstood it; and I have yet to see where a single Indian or Pakistani archaeologist has made any real effort to develop a quantitative technique against which to measure the validity of the results one in consequence obtains. In 1950-1951 we were faced with the immense task of bringing some viable order to a vast body of seemingly unrelated material evidence. Only one serious attempt to do this had been made, that by Piggott, and much of this was based on apparent parallelisms in style as represented by the decoration of potsherds found in one context or another from region to region. The merit of Piggott's work lay in the thoroughness with which he handled the available material; its faults lay in part in the inadequacy of the material itself. The way we tried to remedy the latter situation is part of the history of archaeology of the Borderlands. The merit of our work rests on the comprehensiveness of our treatment of the ceramic corpus in particular, its faults lay in the incompleteness of the study. We were not prepared, for example, to handle the details of the history of vessel forms; we had no palaeo-botanist; and certainly we were not in a position to clear an occupational level in its entirety. We were often confined to sinking those sondages which are supposed to provide stratigraphic answers and which graduate students and others delight in arranging on charts, but which are generally unreliable for what they are supposed to do and certainly worthless for any real effort to resolve the culture history of a site, let alone a region. I am certain that others beside myself would say in common "if only we had been permitted to complete what we started".

Since Piggott's day a number of syntheses have been attempted. Most of these are repetitive, varying only in discussions regarding the relative placement of given potsherds, and a number of which struggle to connect India with Mesopotamia via those same potsheres ! However, a few efforts, such as R. Mughal's unpublished thesis, even though he takes me to task for this or that, does make an effort to present the total assemblage of artifacts, and thus his hypothesizing greater Harappan has methodological merit. In turn, I believe that the period definition which I have argued for in a number of publications also has merit in its holistic approach. Nevertheless the flaws in all these synthesizing efforts are primarily caused by the limited reliability of the primary sources.

Where then does this new effort by Jim Shaffer, and which he has given me the privilege of writing a foreword to, fit in the history of Indo- Iranian Borderland archaeology ? It seems to me that its importance is three-fold: the first, of course, lies in the presentation of new material evidence from the Borderlands, i.e. the results of the excavations of Said Qala; the second is the author's holistic approach particularly to the ceramics: he is, at this writing, practically peerless in his knowledge of the ceramics of the Indo-Pakistan region; the third, is his theoretical approach which is evolved directly out of his anthropological training. For the first two the importance is self-evident. One should not be uncritical of his ceramic types: I am not, for example, in comlete agreement that some of the types of the Kandahar area are identical with those of Quetta, but that is a cavil. What is the most important contribution is the third aspect. Here we have a much-needed coming to grips with older ideas as to diffusion and local integration. How inadequate those ideas are in the face of our real understanding as to cultural process in time ! Shaffer's detailed accounting of what we mean by diffusion and what we actually have to show to prove it is substantive and ought to be read by all South Asian archaeologists.

I am in hopes that Shaffer's thoughtful review of Borderland prehistoric archaeology, his handling of the primary evidence he himself has obtained, and his vision of what approaches we need to take will meet with the fruitful response they deserve. This is another step in the study of this vitally important region and it is a big one.

Walter A. Fairservis, Jr.
Sharon, Connecticut
June, 1977.

PREFACE

This publication is a revised edition of the author's doctoral dissertation at the University of Wisconsin, Madison. Six years have passed since the original research was completed. During that period new information has become available which necessitated some major and minor changes, although the interpretative framework remains basically unaltered. Unfortunately it still remains impossible at this time to present a complete and detailed report on all aspects of the excavations. In spite of this difficulty, the author hopes the data and theory presented here will be of use to concerned scholars.

The research here is the result of sincere efforts on the parts of many people besides the author. To Dr. Chester S. Chard, who assumed the major responsibility for the author's graduate training, a great deal of thanks must be extended. The opportunity to conduct research in Afghanistan was provided by Dr. Louis Dupree of The American Universities Field Staff. Without the help and encouragement provided by Dr. Dupree, and his wife Nancy, none of this research would have been possible. My close friend, and colleague, Dr. Michael A. Hoffman gave freely of his time, skill and knowledge, and without his assistance much of the data could not have been assembled. Of course a researcher in a foreign country is dependent upon the hospitality of the host government. In the process of conducting this research the author came into contact with many officials of the Afghanistan government who gave most freely and graciously of their time. Among these a special thanks is due to the Ministry of Information and Culture and especially to the Afghan Institute of Archaeology and its then Director Dr. S. Mustamindi.

Additional thanks must go to Professor George F. Dales who kindly consented to read and comment on the original manuscript. This research has also profited from the advice of Professor John T. Hitchcock who provided much assistance throughout the author's time at the University of Wisconsin. Thanks must also be extended to the Heintz Archaeological Foundation which in-part some of the research.

A very special thank you is extended to Dr. S. P. Gupta (National Museum, New Delhi) who has made possible this presentation of data now long overdue. Indeed, his energy and enthusiasm for Central and South Asian archaeology has been a prime motivation in the production of this revised edition. A very special thank you must be extended to my wife, Dr. Diane A. Lichtenstein, who has endured long periods of separation and has provided critical comments without which this, and other, research would have been impossible.

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CHAPTER I

BACKGROUND AND PROBLEMS

There is so little known about the prehistoric archaeology of Afghanistan that little theoretical justification is needed to initiate research in that country. Similarly, there are increasing indications that cultural developments in the south and southeastern (Baluchistan) areas of Afghanistan are vital to understanding developments in regions as disparate as Soviet Central Asia and the Indus Valley. That some type of interaction was being maintained between these and other regions during pre- and protohistoric periods is becoming increasingly evident. Therefore, investigations in Baluchistan and southeastern Afghanistan should provide important information about such interactions. Current interpretations concerning the nature and extent of these interactions and developments form an important background for understanding the Said Qala Tepe material and a brief discussion is presented here.

Traditional archaeological research in South and Southwest Asia has focused on cultural developments as they occurred in Mesopotamia and the Indus Valley. Mesopotamian archaeology has a long history of development extending back to the mid-19th century. The impressive archaeological remains coupled with the fact that Western scholars see in Mesopotamia the roots of ''Western Civilization'' has promoted this long history of research. In contrast, archaeological research in the Indus Valley has been confined essentially to the last fifty years. Despite its recent development archaeological research here has delineated the outlines of one of most interesting and complex protohistoric cultures ever found—the Harappan. This culture with its large well planned urban centres, unique script, seemingly ''standardized'' material culture, and extensive distribution (from the Oxus River in the northwest, to Haryana in northeast, and the Indian Ocean in the south) has been the central focus of South Asian archaeology.

Separating these two river valleys is a vast hinterland which has only recently begun to receive the archaeological attention it warrants. This vast upland arid region corresponds roughly to what is known as the Iranian Plateau incorporating the modern states of Iran, Afghanistan, and western Pakistan. Within this region the western third is the best known archaeologically and several important sites have been excavated (e.g. Susa, Sialk). The eastern areas remain even today only sporadically explored. Pumpelly's early work at Anau, just north of the Plateau in Turkmenistan, and Stein's surveys in the eastern fringes confirmed, however, that major pre- and protohistoric sites were to be found here. A similar conclusion was indicated by McCown's (1942) comparative stratigraphy study for the entire Plateau. The general interpretative consensus for this material was that it consituted only a later reflection of major cultural developments which had taken place in Mesopotamia proper. Even after the discovery of Harappa these eastern regions continued to be cast within an interpretative framework attributing major cultural developments to diffusionary influences from Mesopotamia. Indeed, even the Harappan culture was seen as having had its ultimate origins in these western regions. This situation was to persist until very recently.

Since approximately 1955 a few intensive efforts have been made to expand our archaeological knowledge of these eastern regions. Among the more important sites investigated have been: Tal-i-Iblis (Caldwell 1967); Tepe Yahya (Lamberg-Karlovsky 1970, 1972a); Shahr-i Sokhta (Tosi 1969); Mundigak (Casal 1961); Deh Morasi Ghundai (Dupree 1963); the Quetta Valley sites (Fairservis 1956); Bampur (DeCardi 1970); Surab (DeCardi 1965); and, several sites in Soviet Turkmenistan (Masson and Sarianidi 1972). These excavations have not only filled-in the archaeological details of these regions but, also, and more importantly, they have altered the interpretative context for these details. The initial occupations and use of metal artifacts at such sites a Tal-i-Iblis and Yahya were carbon-dated at unexpectedly early periods. In northern Afghanistan Dupree (1972) found selective exploitation of the wild predecessors of domesticated sheep and goat in an Upper Paleolithic context. At the same sites were located domesticated animals and bronze artifacts (7% tin) dated to the last half of the six millennium B.C. The extended chronology for cultural developments in these regions questioned the creditability of previous diffusionary explanations (Shaffer 1972, 1974, n.d.). Major cultural developments were apparently contemporary with similar phenomena in western regions, therefore their presence could not be explained by simple diffusionary processes.

These circumstances have resulted in recent attempts to develop alternate interpretative frameworks emphasizing possible indigenious processes of cultural development (Lamberg-Karlovsky 1972b; Lamberg-Karlovsky and Tosi 1973; Shaffer 1972, 1974). Similar interpretative problems have developed in other areas of the world (e.g., Renfrew 1974) resulting in the "diffusion vs. anti-diffusion" controversies so prevalent in recent archaeological literature (e.g., Binford 1965, 1968). However, the particular circumstances encountered with the data from this region are not easily categorized by this intepretative dichotomy. Indeed, one finds diffusionary explanations set within the framework of indigenious interpretations (e.g., Tosi 1974). The problems derive from similarities and differences definable within and between sub-regions of this general area; and, similarities in material culture which exist between this area and those of the Indus Valley and Mesopotamia. For example there is the very striking similarity in the decorated pottery found at Namazga III (southern Turkmenistan), Shahr-i Sokhta (southeastern Iran), Mundigak III-IV (southeastern Afghanistan) and Damb Sadaat I-III (western Pakistan). Similar parallels can be defined among other artifact categories (e.g., compartmented seals, female figurines, etc.). At the same time Harappan style artifacts have been identified in Turkmenistan sites. Similarly, ceramic examples of pottery comparable to that of Amri, Gumla and Kot Diji (all in the Indus Valley) have been identified at Mundigak and Said Qaḷa Tepe in Afghanistan but not at Shahr-i Sokhta or in Turkmenistan. Quetta Valley pottery types (western Pakistan) have been found as far west as Shahr-i Sokhta (and possibly in the Bampur Valley of southeastern Iran) and at the Indus Valley sites of Gumla, Jalilpur, and the early levels of Mohenjo-daro. Lapis lazuli, the major source for which is in northeast Afghanistan, is found distributed throughout this region, the Indus Valley and as far away as Mesopotamia. At Tepe Yahya a Harappan seal impression and a few examples of Indus Valley (Amri) and Baluchistan (Nal) type potteries were found. Also at Yahya were found proto-Elamite inscriptions, Jamdat Nasr pottery, and carved steatite vessels similar to those of Mesopotamia. Proto-Elamite tablets have also been reported from Shahr-I Sokhta. The Bampur pottery is similar to that found in Persian Gulf sites with their destinctive, but similar to Harappan, circular seals. Harappan seals havə of course been found in Mesopotamia. At the same time there are distinct differences between these sites. There is but little similarity between the pottery of Yahya and Shahr-i Sokhta. Likewise, several distinctive ceramic styles can be found within various sub-regions (e.g., Nal, Kulli, Amri, Kot Diji, Quetta etc.). The archaeological sequences then, especially in terms of ceramics, demonstrated individuality from one region to another, indicating that they were, at least in part, indigenous developments. However, there were ceramic similarities between sequences, including intrusive objects, indicating that some sort of cross-regional communication was being maintained. The dilemma presented to the archaeologists then, was to develop an interpretative model which accounted for indigenous, but not necessarily autonomous cultural development throughout these various hinterland regions. A few such models have been proposed and they are discussed in the final chapter, along with the interpretation resulting from the Said Qala excavations.

Background and Problems of Present Research

In the winter of 1970-1971, the Archaeological Mission of the American Museum of Natural History in Afghanistan, under field direction of the author, returned to Said Qala Tepe (locally known aa Chil-a-gor Tepe and Tepe-i Bahrain) for excavations. The site had been sampled by the mission twenty years earlier in 1951 (Fairservis 1952; 1971: 122-123). At that time two *sondages* were made but neither was able to reach sterile soil. Fairservis has summarized the results of this preliminary excavation:

> The material from the upper levels of the site was essentially the same as that from Deh Morasi Ghundai (B), but with a suggestion of a slightly earlier phase (A). Below these levels, without a perceptible break, were levels containing an assemblage of crude handmade and basket-marked pottery with here and there some fine wheel-made potsherds to indicate that the people of those days were at least familiar with the products of the more advanced technique.
>
> One came away from the Tarnak-Argandab sites with a sense that they represented a localization of strong traditions of developed village farming [Fairservis 1971: 123].

More extensive excavations were conducted at that time at Deh Morasi Ghundai by Dupree (1963). These excavations consisted of four *sondages*, one of which reached sterile soil. From this work Dupree (1963: 115-120) was able to construct a cultural sequence divided into four major periods—Morasi I to IV—all of which were prehistoric. Dupree (1963; 78, 115) postulated an equation of Morasi I with the top levels at Said Qala Tepe, due to the presence of Said Qala Coarse Ware type sherds. In an attempt to relate this sequence to that of Mundigak, Dupree (1963: 119) equated Morasi II with Mundigak III and placed Morasi I earlier than Mundigak I. Dales (1965; 1973), in more recent studies of comparative stratigraphy, equated Morasi II and III with Mundigak IV (the urban period) but remained uncertain about the early position of Morasi I. These facts were the known specifics about Said Qala Tepe when excavations were resumed.

Because of financial restrictions, goals of the present project were limited. The immediate objective was to obtain a stratigraphic and ceramic sequence of the mound to sterile soil. Such a sample would provide a basis on which to accept or reject Dupree's equation of Morasi I with the upper levels of Said Qala Tepe. If this equation should prove correct, then by combining the two sequences a detailed stratigraphic and ceramic sequence could be constructed and, more importantly, be compared with that found at Mundigak and other sites in Baluchistan and neighbouring regions. Since Dupree did not recover any intrusive ceramics at Morasi, a conscious attempt to obtain such ceramics was made at Said Tepe Qala by increasing the sample size. The location of such ceramics is vital to determining the degree of interaction occurring within and without Baluchistan. In addition it was hoped that excavations would allow for procurement of significant samples of C-14 datable material, as well as botanical and osteological materials which would result in a better conceptualization about these insufficiently known aspects of the prehistoric record in Baluchistan. These then were the excavations' specific objectives, the results of which would have to be integrated into the broader theoretical problems discussed above.

Limits of the Present Study

A complete and exhaustive analysis of all the data recovered during excavations at Said Qala Tepe is not yet possible. Descrip tions of artifacts and their stratigraphic associations have been published (Shaffer 1971a; b) as well as a detailed analysis of the historic Kushano-Sasanian cemetery (Shaffer and Hoffman 1971; 1972; n.d.) which was intrusive into the latest prehistoric deposits. Rather than duplicate the information which is already available, this study will concentrate upon a detailed analysis of mound stratigraphy and the ceramic sequence located at Said Qala Tepe. Brief descriptions of both data categories were presented in the published reports. However, subsequent analysis has not only refined initial interpretations but also indicated additional ones. Furthermore, except for the botanical and osteological analysis, all primary objectives with which the excavations were initiated can be addressed with the results of the analysis for these categories of data. Other categories of data utilized in the final interpretations will be based upon published descriptions.

CHAPTER II

THE ENVIRONMENTAL FACTOR

Introduction

Said Qala Tepe is located in a geographical area generally referred to as Baluchistan. The area of Baluchistan as it will be defined here incorporates that area south of the Hindu Kush Mountains, east of the Zagros Mountains, north of the Indian Ocean and west of the Indus River Valley. In essence it is inclusive of the entire Iranian Plateau southeastern corner. Fisher (1968: 7), however, has argued that this area is not a part of the Iranian Plateau proper. He maintains that the eastern Plateau boundary coincides with the eastern uplands of modern Iran. This definition is, he admits, one based upon political considerations more so than geographical ones which he considers justifiable on the basis that the former are more important than the latter in the modern world. The most unfortunate result of this definition has been to exclude Baluchistan from most regional Middle East geographies (see Fisher 1957), producing a void in readily accessible geographic information.

Baluchistan, like the rest of the Iranian Plateau, is generally referred to as a semi-arid zone. It is an area of hills and mountains beginning at almost sea level on the plains of the Indus River and reaching 2000 meters in altitude where it merges into the Hindu Kush Mountains. These mountains and hills are separated by rivers, many of which are perennial in flow. Like the Iranian Plateau proper it also has a large interior desert basin, the Dasht-i Margo. However, unlike the rest of the Plateau, which receives most of its precipitation in winter, Baluchistan also receives significant precipitation in the summer, which is attributable to effects of the Indian monsoons. This large area demonstrates a high degree of geographical diversification which facilitates its division into sub-regions (see Figure 1).

Baluchistan Sub-Regions

Geographical descriptions of these regions have been done by almost every archaeologist who has worked in them (for example, see Fairservis 1971: 105-108, 185-189). However, most of these concentrate upon the immediate geomorphology surrounding the site(s) with general notes about temperatures and climatic conditions (with the exception of Durpee 1958; 1963; 1973). The present data and sub-region definitions are taken primarily from Raikes (1968) who has conducted hydrological and ecological surveys of this region. Another important but more limited source of areal information is Lambrick's (1964) general geography of the Sind. The following sub-region definitions are based mainly on the above works. These sub-regions have been imposed upon the geographic data to facilitate the descriptive discussion. Undoubtably some scholars will disagree with these divisions, but the author feels that they are functional for present proposes.

Duki Sub-Region

The main boundaries of this region are formed by the Suleiman Mountain range in the west and the Indus River plains on the east (Raikes 1968: 116). Loralai and Duki are the modern centres of population. Although one of the largest sites in Pakistan, Dabar Kot, is located in this area, it has been little explored except for a brief survey by Fairservis (1959).

The Anambar River with its flat Thal alluvial plain is the major river. The main drainage for the entire region is to the south, where it flows onto the Kacchi Plain. Agriculture is concentrated on the Thal Plain at an altitude of 1100 meters. This region has been described as a "transitional zone" between the semi-tropical Indus Valley of the Sind and Punjab and the semi-arid to arid Iranian Plateau. There are two major seasons of rainfall in that the Thal Plain receives most of its precipitation in summer while Loralai receives it in winter.

The modern subsistence base is confined to limited cereal agriculture along with extensive sheep-goat and limited cattle pastoralism. Agriculture is practised through the utilization of flood irrigation in combination with dry-farming techniques.

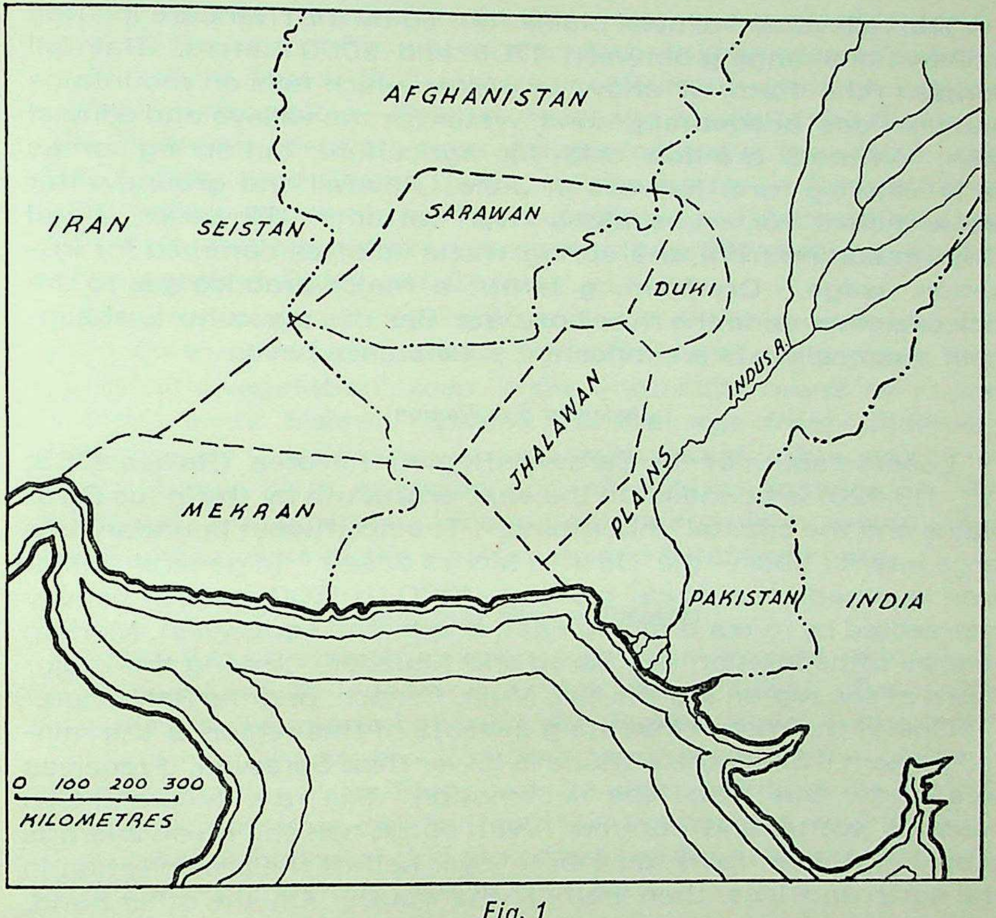

AFGHANISTAN
IRAN
SEISTAN
SARAWAN
DUKI
JHALAWAN
INDUS R.
PLAINS
MEKRAN
PAKISTAN
INDIA
0 100 200 300
KILOMETRES

Fig. 1

Sarawan Sub-Region

Essentially this region is a high plateau extending from Quetta to Surab (inclusive of the Isplinji tract) on the west, to the Hindu Kush Mountains on the north (Raikes 1968: 116, 118-119, 123). Major centres of population are Quetta City in Pakistan and Kandahar in Afghanistan. Several major rivers are located in this region, the more important of which would be the Zhob, Gomel, Arghandab and Dori Rivers. In general the drainage tends to be toward the southwest. On the plateau are located several small mountain formations. Also within this region is the other major pass providing access to the Indus Valley—Bolan Pass. The other major feature of this region is the large Dasht-i Margo desert.

The valleys and alluvial plains formed by the rivers are located in elevations ranging between 1700 and 2000 meters. Rainfall comes in the form of snow in winter which falls on mountains and provides adequate ground water for the valleys and alluvial fans. Winters are too cold for agriculture, but spring comes early allowing for a harvest in June. Rainfall and groundwater are sufficient for crops along river bottoms. However, flood water resulting from the spring melts is often dammed for irrigation usage. Dry-farming is not a major practice due to the lack of soil outside the river bottoms. Besides agriculture, sheep-goat pastoralism is an important subsistence base.

Jhalawan Sub-Region

Located south of the Sarawan Region this area (Raikes 1968; 116, 119-120) is bounded on the east and south by the Indus River plains and the coastal mountains. The northwest boundary is a large interior basin—the Dasht-i Margo desert. In general Jhalawan is a medium altitude plateau (1000 to 1300 meters) heavily intersected by rivers draining east, south, and southwest. Modern centres of population are Surab and Khuzdar. Among the major rivers of the region are the Nal, Mula, Ornach, and the Rakhshan.

One of the more interesting aspects of this region is the rainfall pattern. Since the altitude is lower than Sarawan, it receives less snow but also less sublimation. The rain occurs in two seasons, winter and summer, with about half the mean average in each. Winter rains distribute over half of the precipitation in the north and less than half in the south. On the other hand, the summer rains are sporadic with erratic distribution and great intensity. However, total rainfall is still generally insufficient for crops without irrigation outside the immediate river bottom lands. Beyond these bottom lands the main subsistence would have depended upon sheep-goat pastoralism. The bi-seasonal rainfall pattern would have been especially beneficial to such a subsistence pattern in that it would have supported a considerable growth of perennial browse vegetation with the possibility of two flushes of such vegetation within a year.

Mekran Sub-Region

This region extends into southeastern Iran (Raikes 1968: 116 122-124; Fisher 1968: 81-93) and its southern boundary is the Arabian Sea. The boundaries are: the Indus River plains on the east, the Zagros Mountains on the west, and the large interior basins of the Iranian Plateau on the north. It is an area of narrow barren valleys below 300 meters in elevation with only limited areas of lowland plain. Besides receiving much of the drainage from Jhalawan, there are several rivers located in the region—the Kech, Bampur, and Dasht Rivers, to name a few. This region is not as heavily populated as the preceding ones, but some of the more important population centres would be Bampur, Iran-shahr, Mand Qasrqand, Pasni, and Chahbar.

Small amounts of rainfall occur in summer and autumn which are totally inadequate for agriculture and can support only a xerophytic vegetation except in the immediate areas of rivers. However, since Mekran receives the drainage from Jhalawan and Sarawan, these rivers are quite substantial. This source of waters makes strip irrigation and agriculture possible in the immediate river bottoms. Sheep-goat pastoralism would have been good because of the vegetation and perennial rivers.

The Indus Plains Region

Unlike Baluchistan this region has been studied extensively by geographers and geologists (e.g. Spate 1954). Two basic divisions may be made between the Punjab Plain in the north and the Sind in the south. The drainage system of the plains is dominated by the Indus River and its various tributaries. Major centres of population can be found throughout the region. Geographical summaries of this region are readily available and only a few general comments will suffice here.

In contrast to Baluchistan this region has enormous areas of fertile soils and perennial rivers ideally suited for agriculture. However, the full potential of this region cannot be exploited without irrigation systems because the area away from the rivers is desert. Without irrigation only the strips of galley forest along the river could be utilized. Irrigation without modern controls could have been practised only in winter due to the monsoonal nature of the rainfall and resulting summer floods. However, without modern controls a case of flooded back-water swamps with annual natural irrigation could have and probably did exist (Raikes and Dyson 1961: 274-275).

The above brief discussion of the four sub-regions of Baluchistan and the Indus plain give some idea of the modern geographical conditions. Since the concern of this study is not with present-day conditions but with those of the protohistoric period, it must now be examined as to how applicable these descriptions are for that period.

Prehistoric Environments

Sir Aurel Stein (1931) was the first to propose that within Baluchistan there had occurred a significant decrease in rainfall due to climatic desiccation. This hypothesis was supported by interpretations of the' 'Indus Civilization'' remains by Marshall (1931) who also contended that dramatic climatic changes had occurred for the Indus Valley in prehistoric times. Subsequent scholars (Vats 1940: 4; Piggott 1950: 134-135; Spate 1954: 145; and Wheeler 1953: 6) have all accepted this postulate of climatic desiccation for Baluchistan and the Indus Valley. This postulate had become so well accepted that Wheeler could conclude:

> A certain degree of climatic change is beyond dispute; but how far that change is due to ''natural causes'' and how far to sheer human improvidence (if that be other than a ''natural cause'') is less easy to say [Wheeler 1953: 6].

However, just fifteen years later Wheeler (1968: 6-9) was to deny the existence of any significant climatic change within the last 9000 years for this area to the point of stating:

> There is no reason to suppose that the removal of modern controls would not recreate most of the environment of the chalcolithic period [Wheeler 1968: 7].

This reversal of interpretation is partially the result of work by Robert L. Raikes. A hydrologist by training and an archaeologist by avocation, his interests stem from the many seasons of field work he conducted in Pakistan as a hydrological engineer. His work has covered not only the hydrological-ecological aspects of this area (Raikes and Dyson 1961; Raikes 1964; 1965b and c) but also general statements concerning the role of hydrology in archaeology (Raikes 1965a; 1967) as well as the results of archaeological surveys (1963; 1965d; 1968). After an extensive review of data upon which the postulate of climatic change was based, Raikes and Dyson concluded:

> In almost every case the evidence—hydrographical, zoological botanical, archaeological, and architectural—fails to substantiate the hypothesis. The available evidence simply does not demonstrate that climatic change of any major proportion has occurred [Raikes and Dyson 1961: 279].

Furthermore, this conclusion was supported by the geographical studies of Bobeck (1953/1954) who also found climatic parallels for the area between ancient and modern times. In the western Iranian Plateau similar models have been proposed (Flannery 1969; Butzer 1970; Wright 1971) for the post-Pleistocene period which note environmental parallels between that period and the present day. It must be stressed that such interpretations of basic climatic stability do not exclude prolonged periods of local fluctuation or changes resulting from the actions of man.

Taking into consideration these recent interpretations, it will be postulated here that there have been no major climatic changes in Baluchistan during the post-Pleistocene period. Therefore, it will be assumed here that the descriptions presented for the present day environments are reasonable approximations of conditions which were prevalent in the area during the prehistoric period.

Environment of Said Qala Tepe

Said Qala Tepe is located within the sub-region of Sarawan. More specifically, it is on an alluvial plain located between the Arghandab, Tarnak, and Dori Rivers southwest of Kandahar. The description of the Sarawan sub-region is fully applicable to this area.

Specific geographical descriptions of this area are to be found in the site reports of Deh Morasi Ghundai (Dupree 1963) and Shamshir Ghar Cave (Dupree 1958) both of which are located within a radius of four kilometers southwest of Said Qala Tepe Generally this area is typical semi-arid alluvial plain which has been modified to support extensive agriculture. Are cent modification, a significant rise in the water table, has resulted from irrigation controls constructed on nearby rivers. The additional water made available has allowed the introduction of more water-requiring crops, especially fruits, than had been grown in the past. At the base of Said Qala Tepe the water table was above the surface and prevented excavations from reaching definitely sterile soil.

CHAPTER III

THE SAID QALA TEPE SEQUENCE

Introduction

Stratigraphy is of course the very basis of archaeological interpretation at almost every site. The possibility of cross-correlation with Deh Morasi Ghundai at Said Qala Tepe made stratigraphy of even more important note. In terms of total volume for the mound, less than 0.5% of the total was sampled. There was nothing in this sample, however, to indicate that it was not a representative sample. Preliminary analysis indicated at least four major occupation periods which were separable into phases (Shaffer 1971a; b). However, subsequent analysis has resulted in not only a refinement of the original periods but also delineation of an additional two periods. The analysis presented below not only supplements the original reports but supersedes them.

Units of Excavation

Introduction

Said Qala Tepe rose above the surrounding alluvial plain to a height of 7.5 meters and was approximately 210 meters in diameter (Figures 2 and 3). The mound had been subjected to extensive erosion of both natural and human sources (mounds in this area are often exploited as a source for topsoil). Two small pisé structures, whose function was associated with processing of dried fruits, had been constructed into the side of the mound. Directly in front of these structures were large ovens for the preparation of the lime solution for such processing. On top of the mound two large and very level pisé surfaces had been constructed for drying the processed fruits—mainly raisins. In addition a trench had been excavated around the circumference of the mound's base. The latter functioned as a shooting-blind for fowl attracted by the exposed water table surrounding the mound.

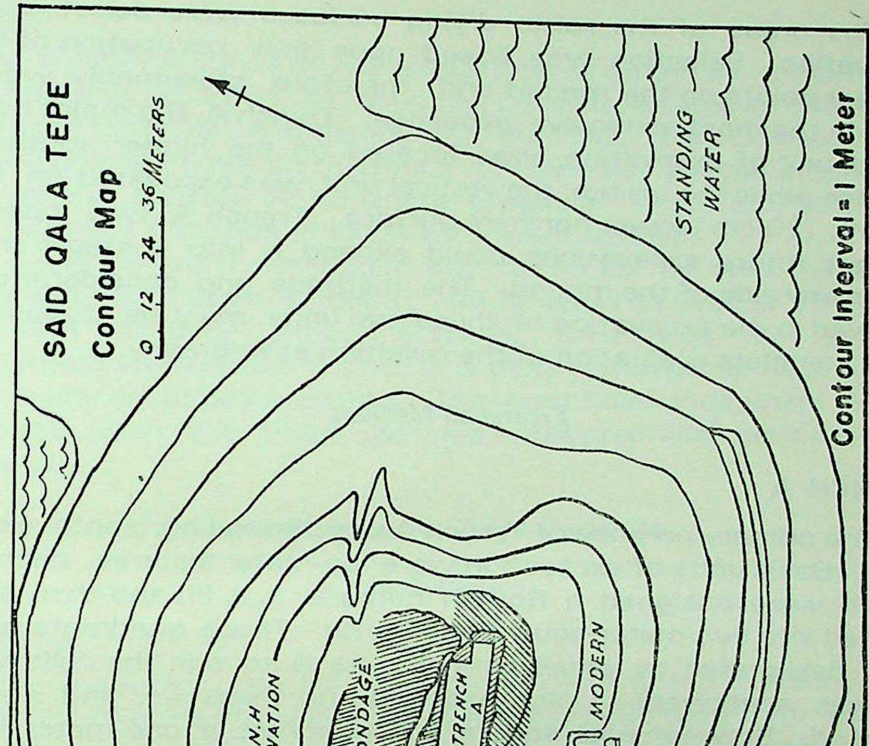

SAID QALA TEPE
Contour Map
0 12 24 36 METERS
STANDING WATER
STANDING WATER
STANDING WATER
1951 A.M.N.H EXCAVATION
SONDAGE
TRENCH A
MODERN
MODERN
MODERN
Contour Interval = 1 Meter
||||| Pisé
//// Back Fill

Fig. 2

The areas of the raisin drying surfaces were selected for excavation. Selection was based upon their occupation of the highest points on the mound and, therefore, presumably would provide the most extensive sequence. Trench A, the major horizontal unit of excavation, was located on the higher southern surface while the *sondage*, the vertical unit, was excavated on the slightly (20 cm.) lower northern surface. Trench A was located so that future excavations could expand it into a step-trench down any side of the mound. The methods and considerations involved in the excavation of these two units must be discussed for a complete evaluation of the resulting stratigraphy.

Excavation Methods

TRENCH A

The primary purpose of Trench A was limited horizontal exposure. Basic units of excavation were ten-meter squares, each of which were assigned a Roman numeral (I, II, III) and then subdivided into five-meter-square quadrants These quadrants were then designated by small Latin letters a to d in the following manner: southwest=a, southeast=b, northeast=c, and northwest=d. Between each square and quadrant a one-meter balk was maintained whenever possible until removal was necessitated by architectural or engineering considerations. Artifacts recovered during such removal were designated as to balk of provenience.

The primary units of vertical removal were twenty-centimeter levels. This unit was maintained at all times except where feature, structure details, or stratigraphic considerations necessitated utilization of a smaller one. All fill was sifted through screens of 0.5 cm. square except for fill from special features, such as firepits, which were sifted on screens with 0.25 cm. squares.

All definable structures were assigned a capital Latin letter designation. If the structure had more than one room, an Arabic numeral was assigned to each separate room and the number placed in front of the letter designation of that structure (1M, 2M, 3M). As excavation proceeded it became obvious that some structures had undergone rebuilding which modified their outline, or utilized walls of structures from earlier periods. For each successive modification, a prime (ʹ) was added to the room and structure designations (1F, 1Fʹ).

SONDAGE

The primary purpose of the *sondage* was to obtain as complete a stratigraphic record of the mound as possible, as well as obtaining carbon, botanical, and osteological samples. This contrasted with the primary function of Trench A in that the *sondage* emphasized vertical instead of horizontal exposure. Therefore, somewhat different methods of excavation were utilized.

The *sondage* was a rectangular excavation six by two meters in size and 7.5 meters in depth. All fill was removed in 20-cm. levels and sifted on 0.5-cm. screens. Structures that were encountered were noted, drawn, and then removed so that the lower levels could be excavated. These artificial units were then correlated with the better defined stratigraphical periods of Trench A.

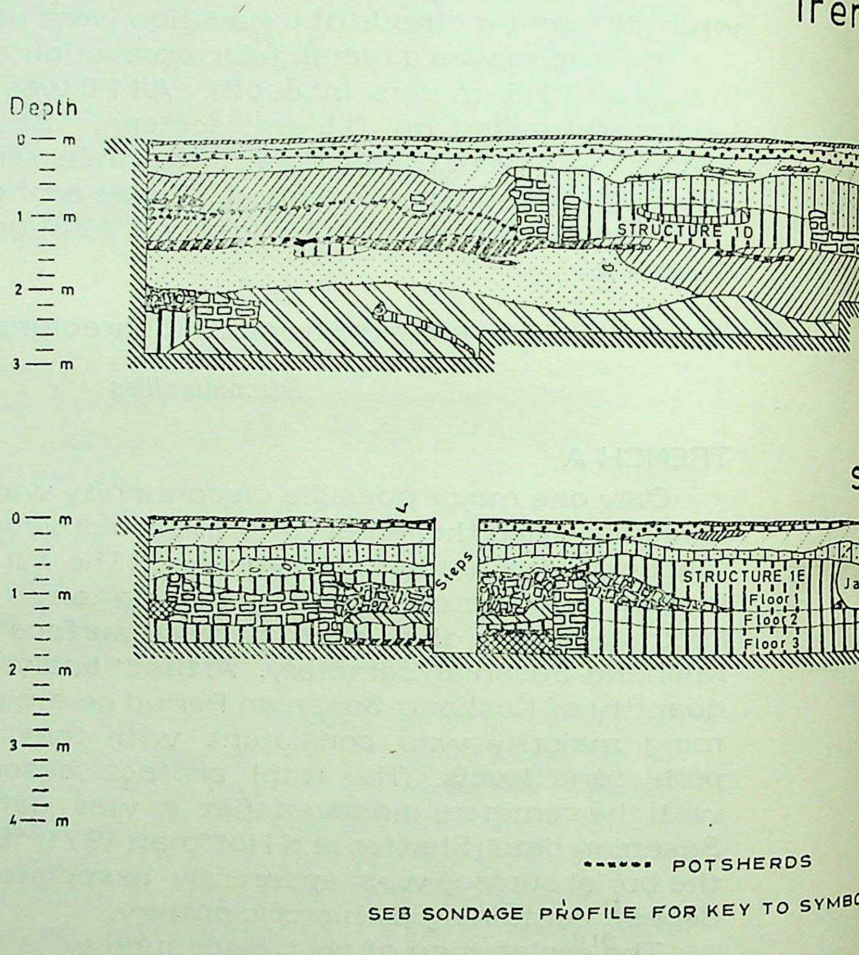
Mound Structural Characteristics

Discontinuities

TRENCH A

Only one major possible discontinuity was noted in Trench A. This concerned the initial cultural deposits encountered immediately below the modern pisé surface. The fill consisted of fairly loosely compacted deposits lacking any structural features. Located below this was a paleo-surface associated with a Kushano-Sasanian cemetery. Artifact analysis revealed a limited quantity of Kushano-Sasanian Period ceramics but an overwhelming majority was consistent with that found in the lower prehistoric levels. The total artifact assemblage associated with the cemetery indicated that it was definitely of Kushano-Sasanian date (Shaffer and Hoffman 1971; 1972; n.d.). However, the burial surface was apparently associated with a disturbed deposit containing prehistoric pottery.

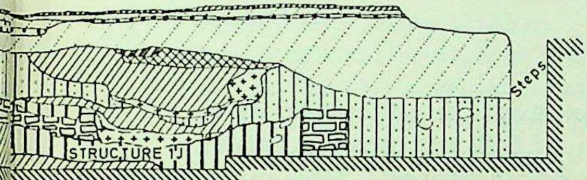
The explanation of this discontinuity is to be found in the loose nature of the fill and lack of associated structures. It is hypothesized here that this somewhat mixed level of prehistoric and Kushano-Sasanian material resulted from a redeposition of prehistoric deposits. Such redeposition was accomplished by natural erosion, human action, or both. It is necessary to assume that previous to present-day conditions some areas of prehistoric deposits were located at a higher elevation than the burial surface. This condition presented the opportunity for natural


Tren
Depth
0 — m
1 — m
2 — m
3 — m
STRUCTURE 1D
S
0 — m
1 — m
2 — m
3 — m
4 — m
Steps
STRUCTURE 1E
Ja
Floor 1
Floor 2
Floor 3
POTSHERDS

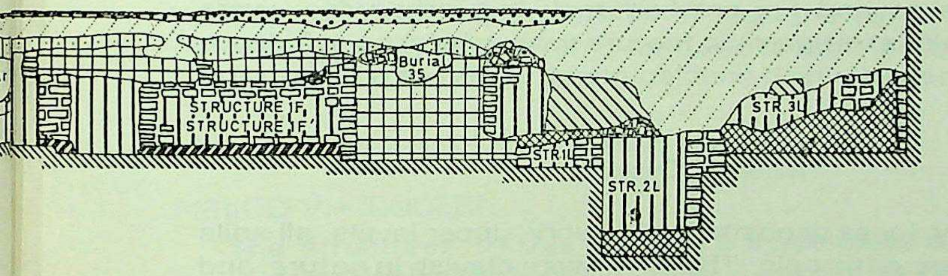
SEE SONDAGE PROFILE FOR KEY TO SYMBO

Profiles

Wall


STRUCTURE 1J
Steps

Wall


Burial 35
STRUCTURE 1F
STRUCTURE 1F'
STR.3L
STR.1L
STR.2L

4

agents of erosion to redeposit prehistoric material super-imposed and mixed with the later burial surface in a manner which left little initial indication that it was a disturbed deposit. Another possible explanation is that in post-Kushano-Sasanian periods man was responsible for this redeposition through successive attempts to produce a level surface for various functions. Except for this single discontinuity, there was no indication that strata were deposited other than by the classic superimposition associated with mounds in this area with no determinable breaks in the occupation.

SONDAGE

Deposits located in this unit of excavation occurred in a regular superimposed manner to a depth of 6.8 meters. At that depth culturally sterile deposits were encountered. However, since cultural material was again found between 7.2 and 7.4 meters, this break is attributed at present to a sampling factor rather than to site abandonment, although this possibility must remain open. Below 7.5 meters excavation had to be halted due to the high water table. At this level deposits contained only a few lithic flakes and fire-cracked rock but otherwise were sterile. The major stratigraphic feature was a leveling of deposits at ca. 4.5 meters which enabled construction of a large mud brick wall.

Nature of Deposits

Excepting the loess deposits in the very upper levels all soils encountered were anthropic. The soils were clayish in nature and varied in colour from a light buff to a very dark brown depending upon the amount of cultural debris associated with them. More specific descriptions of the strata encountered are provided in profile diagrams (Figures 3 and 4) for Trench A and the *Sondage*.

Sequence

The present excavations were able to sample only one period extensively (Period III) and the remainder only limitedly (Periods I, II, IV, V). Future excavations will result in extensive refinements of earlier and later periods. At this time the following sequence is proposed:

Period VI	Modern	1970 A.D,
Period V	Kushano-Sasanian	post-300 A.D.

Period IV	Prehistoric (Bronze Age)	End of Third Millennium B.C.
Period III	-do-	-do-
Period II	-do-	-do-
Period I	-do-	-do-

Period definitions have been based upon natural strata which contain a large percentage of shared material items when contrasted with the materials shared in other strata. Period III and initially Period II have been divided into phases and no doubt a similar situation will be recorded in Period I with further sampling. Phases are based upon: (1) architectural rebuilding, and/or (2) a stratigraphic division in which a new trait is present or increased but, perhaps, remains quantitatively minimal. In essence the definitions of period and phase as used by Lamberg-Karlovsky have been adopted here:

> By period we simply mean a grouping of the stratigraphic divisions which contain the greatest percentage of shared cultural materials. By phase we mean a stratigraphic subdivision of a period, i.e., a rebuild of the same architecture or superimposed architecture where the associated materials indicate direct cultural continuity [Lamberg-Karlovsky 1970: 6]

Having established the method of designation a discussion of the architectural and ceramic features of each period is presented below.

Architecture

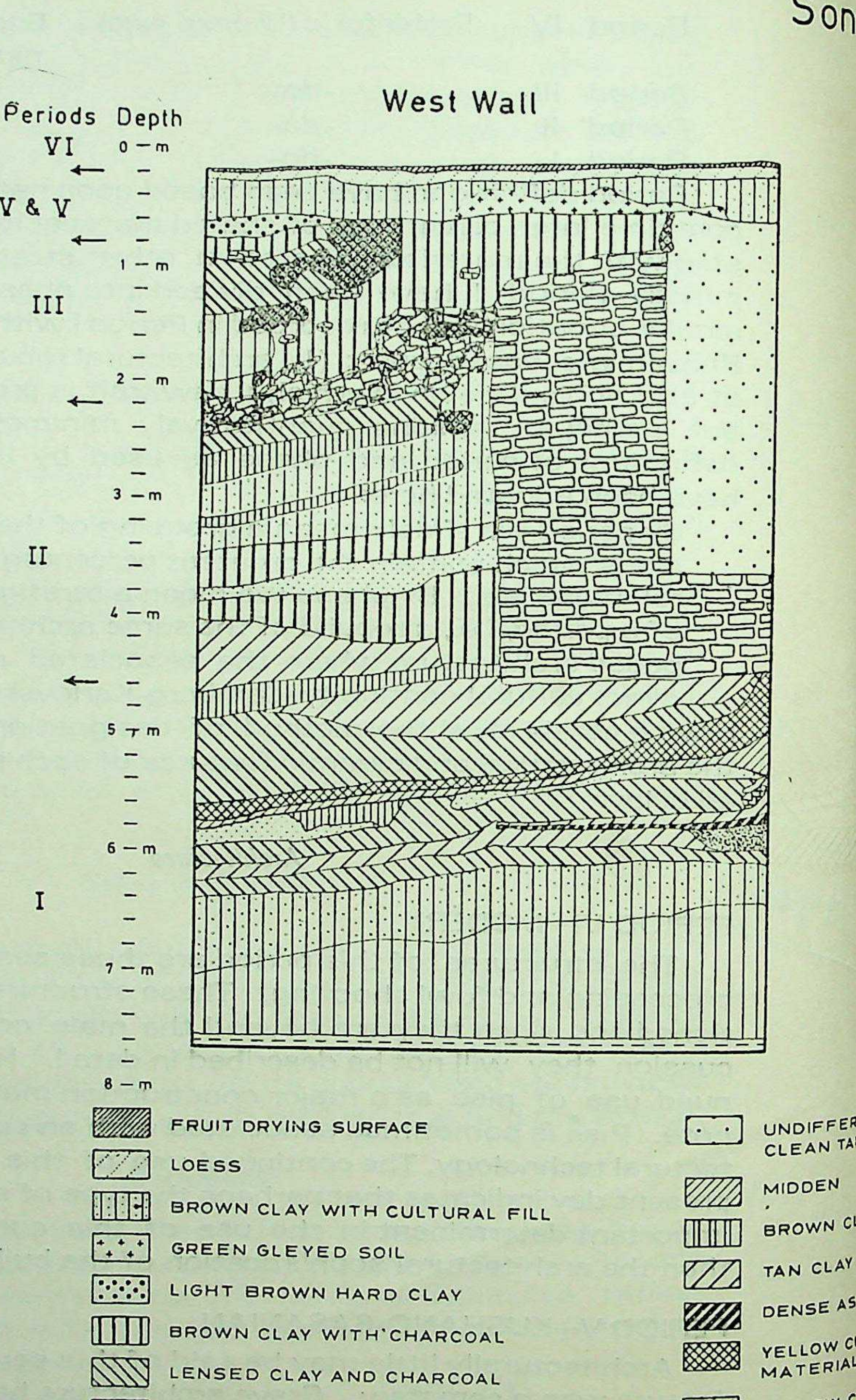
4906

PERIOD VI—MODERN

The structures of this period are those associated with fruit processing and fowl shooting. These structures have been mentioned and since they are beyond the main concern of this discussion they will not be described in detail. However, the continued use of pisé as a major construction material is worthy of note. Pisé is sometimes associated with an early stage of architectural technology. The continued use of this material into the present day indicates that perhaps the type of structure is a more important determinant in the use of this construction method than the architectural sophistication of the builders.

PERIOD V—KUSHANO-SASANIAN

Architecturally little may be said of this period since its major feature was a cemetery. Grave architecture has been previously


Son
West Wall
Periods
Depth
VI
IV & V
III
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I
0 — m
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2 — m
3 — m
4 — m
5 — m
6 — m
7 — m
8 — m
FRUIT DRYING SURFACE
LOESS
BROWN CLAY WITH CULTURAL FILL
GREEN GLEYED SOIL
LIGHT BROWN HARD CLAY
BROWN CLAY WITH CHARCOAL
LENSED CLAY AND CHARCOAL
MUD BRICK WALL FALL
BURNED CLAY
UNDIFFER
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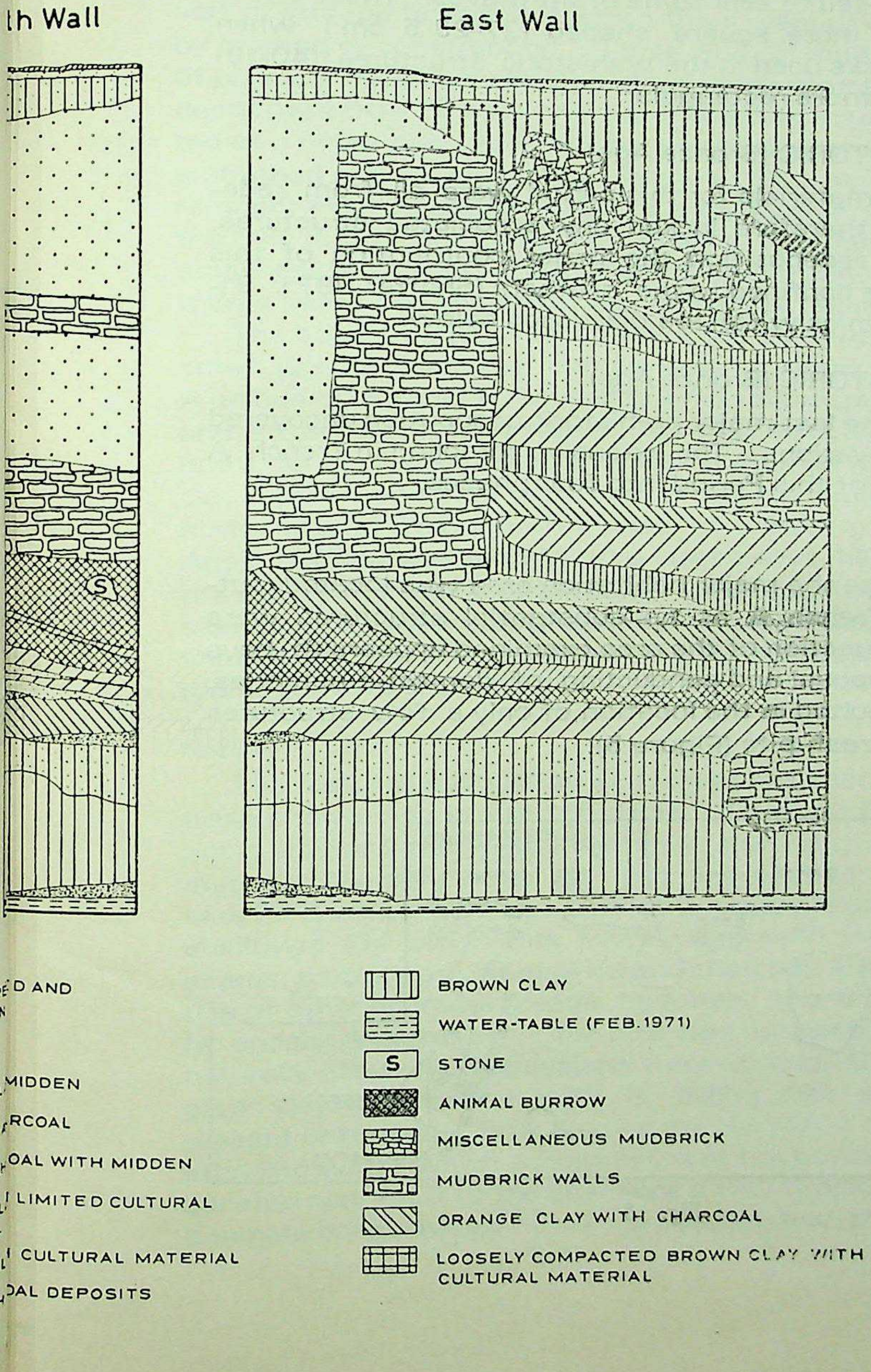
Profiles


th Wall
East Wall
S
D AND
MIDDEN
RCOAL
OAL WITH MIDDEN
LIMITED CULTURAL
CULTURAL MATERIAL
OAL DEPOSITS
BROWN CLAY
WATER-TABLE (FEB. 1971)
S
STONE
ANIMAL BURROW
MISCELLANEOUS MUDBRICK
MUDBRICK WALLS
ORANGE CLAY WITH CHARCOAL
LOOSELY COMPACTED BROWN CLAY WITH CULTURAL MATERIAL

described (Shaffer and Hoffman 1971; 1972; n.d.) and need not be repeated here. Of interest to note, however, is the different size of mud bricks used to seal some of the graves. These bricks were significantly more square shaped (27-23-5 cm.) when contrasted with bricks used in the prehistoric structures (40-19-11 cm.) which were more rectangular.

PERIOD IV—PREHISTORIC (Bronze Age)

The prehistoric materials for this period were all from redeposited strata and therefore lacked any associated structures. As a result of this redeposition the major contribution of this prehistoric period is confined to the artifacts (Shaffer 1971: 91-93), especially ceramics which are discussed below.

PERIOD III—PREHISTORIC (Bronze Age)

Period III was the last major prehistoric occupation uncovered by the present excavations. The extensive sampling in Trench A resulted in division of this Period into four phases.

Phase III D

During this phase the major habitation area was located outside the limits of Trench A as no substantial structures were found. The main function of the area examined appears to have been with trash disposal and conducting of domestic activities. These activities resulted in the location of only a few structures as well as several trash pits (Figure 5).

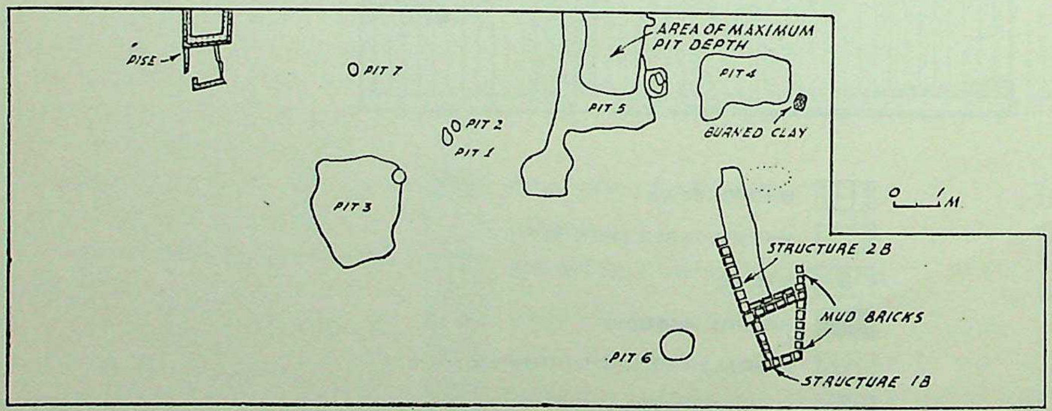


Fig. 5

Structures

The principal structures were bins utilized possibly for some sort of storage function of which there were two types definable by method of construction: (1) pisé, and (2) mud brick. The bins of pisé construction were small squarish structures of shallow depth (less than 20 cm.). Walls of the bins had been constructed of a moist pisé material with trapezoidal cross-section walls, smoothed and allowed to sun harden. The bins utilized a wall remnant from an earlier phase for a foundation. Fill removed from the bins did not indicate their precise function; however, their smallness in size and shallow depth would argue that whatever it was, was possibly meant for immediate consumption.

The other bin (1B) was constructed of mud bricks that were small (23-21-11 cm.) in comparison to those of earlier phases. A unique construction method of alternating courses of headers and stretchers was recorded for this structure. Both interior and exterior wall surfaces had been plastered with a thin layer of clay. Attached to the west wall of the bin and extending to the north was a free standing wall of similar construction (2B). Again nothing was found in the associated fill which indicated the function of these structures. The location of 2B on the west side might be interpreted that it was constructed as a source of shade from the afternoon sun while conducting some sort of work (grinding grain?).

Features

The features associated with this phase consisted of several trash pits varying in size and depth. Trash pit 5 was the largest, being almost 2 meters in diameter and reaching a depth of 1.2 meters. The only other pit that approached such dimensions was Pit 3 which was also almost 2 meters in diameter but much shallower (34 cm.). Pits were filled with large quantities of sherds, partial pots, animal bones, charcoal, and smaller quantities of other artifacts (beads, figurines, and bronze fragments). No special preparation of the pits was noticeable and apparently naturally occurring depressions were utilized. Glayed deposits of green clay were located in Pit 5. While their exact origin is at present unknown, it is likely they are the result of algae action in standing water which accumulated at the bottom of these pits. Located near Pit 5 to the east was a clay firepit. It consisted of a simple basin shaped out of clay which had been fire-hardened through use. A fired mud brick was found directly in the basin of the firepit.

Phase III C

This phase represents the last construction of habitation structures in Trench A (Figure 6). Construction was accomplished by the excavation of a wall trench, a major characteristic for this phase. Several of the more general characteristics for this Period were first definable in this phase: (1) rectangular single room habitations, (2) mud brick construction, and (3) distinctive types of fireplaces.

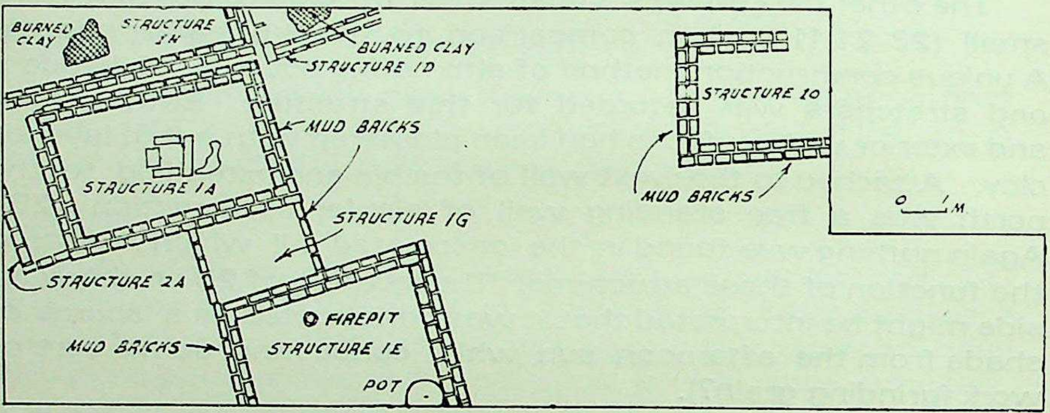

BURNED CLAY
STRUCTURE 1N
BURNED CLAY
STRUCTURE 1D
MUD BRICKS
STRUCTURE 1O
STRUCTURE 1A
MUD BRICKS
STRUCTURE 1G
0 1 M
STRUCTURE 2A
FIREPIT
MUD BRICKS
STRUCTURE 1E
POT

Fig. 6

Structures

Except for structure 1G all structures (1D, 1E, floor 1, 1N, 10) appeared to be single room habitations. 1A had a small storage room (2A) attached to its west wall and 1G was not used for habitation. All structures were rectangular in shape with an average size of 4.5 by 2.5 meters. The distinguishing characteristic of this phase was that wall construction (except for 1G and 1E) was accomplished by the excavation of a foundation trench (wall trench) approximately 25 cm. deep. Into the trench were laid two courses of headers in parallel rows forming a foundation for the wall. The wall proper was then completed with double courses of stretcher mud bricks (average size 40-79-11 cm.). In some instances (1E, 1N, 10) remains of a fine, thin buff clay plaster was located on the interior wall surfaces. At least one structure (10) had a sealed lateral doorway (Figure 7).

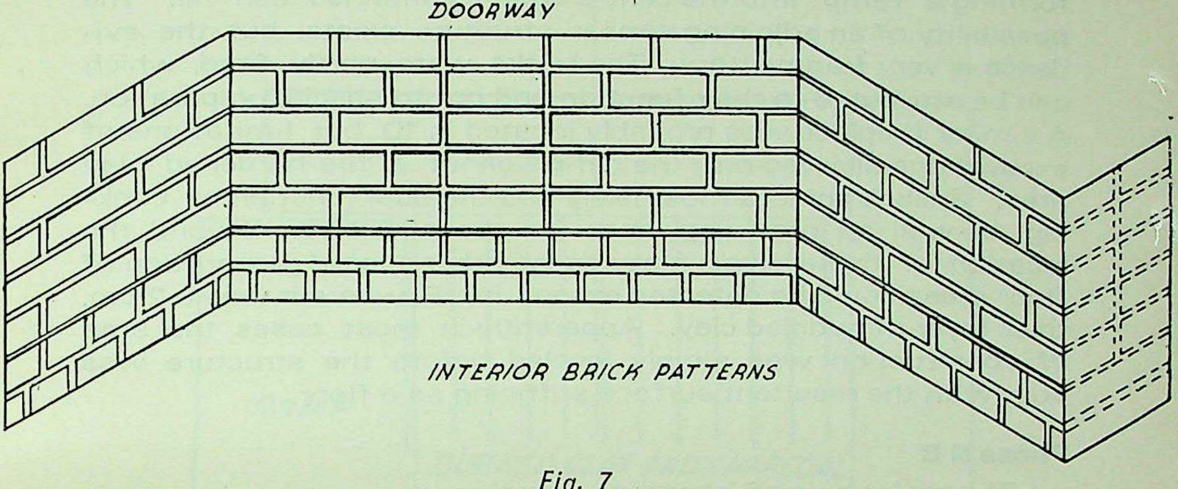


Fig. 7

Lateral doorways might also have characterized the other structures. Structure 1D presented an interesting variation on the method of wall construction. After the foundation had been constructed, the main walls were built with double courses of stretchers spaced 10 to 20 cm. apart leaving an interior core which was filled with cleaned clay.

Structure 1E was the only one that demonstrated a direct continuity with an earlier phase. Standing walls of a structure from a previous phase had been utilized and this phase was distinguished only by a well defined floor. Such re-utilization explains the absence of a wall trench foundation. The other structure to lack this type of foundation was 1G. Structure 1G utilized the existing walls of 1E and 1A for two of its walls, and the other two were constructed by placing stretchers directly on the surface. The small size and "jerry-built" nature of construction argue that this was not a habitation and probably functioned as a work area.

Features

Only two types of features were identified for this phase. A small (50 cm. in diameter) oval firepit with clay lining was found in the floor of structure 1E. In structure 1A a much more sophisticated fireplace was constructed from mud bricks (Fig.8.). Construction was by arranging three large (66-17-4 cm. and 87-18-4 cm.) mud bricks in an open-endedrectangle in the centre of the floor. At the open end of the rectangle was a fired area forming a "ramp" into the centre which contained ash fill. The possibility of an adjoining similar structure exists, but the evidence is very fragmentary. The bricks were partly fired, which can be attributed to their function and not to special preparation. A similar fireplace was probably located in 1D but limitations of excavations allowed only the definition of a fire-hardened clay area. Such fireplaces most likely had the dual function of cooking as well as providing heat for the structure. Beyond the location of these floor features no other special preparation of floor areas could be detected except in 1E where it was a 2 cm. thick layer of puddled clay. Apparently in most cases the area of construction was simply leveled before the structure was built with the resultant surface sufficing as a floor.

Phase III B

The major type of structure remains the rectangular single room habitation constructed from mud bricks. A major change in method of construction occurs in that foundation trenches are deleted. No new categories of features were identified in this phase. The architecture conveys a generic relationship with that of Phase III C, indicating a pronounced degree of cultural continuity which is also seen in the pottery.

Structures

Only three structures (1E floor 2, 1F, 1C) were defined for this phase (Figure 9). Construction was accomplished through the continued use of mud bricks (identical in size), but the method underwent considerable change. Foundation trenches were absent and walls were constructed of single course stretchers placed directly on leveled unprepared surfaces. Structure 1F made partial use of a wall remnant from an earlier phase. Such re-utilization was done by placing a single course of stretchers partially against and above the previous wall. Between the foundation course of 1F and the earlier wall a deposit of heavy midden rich in animal bone was placed. Whether this was done to increase the stability of the foundation course is problematical. A similar situation was identified for structure 1C where the foundation course was constructed directly above the exterior course of an earlier wall. However, 1C lacked the separating midden deposits. Buff clay plaster was located on the interior wall surfaces of structures 1F and 1E. Unfortunately the sample

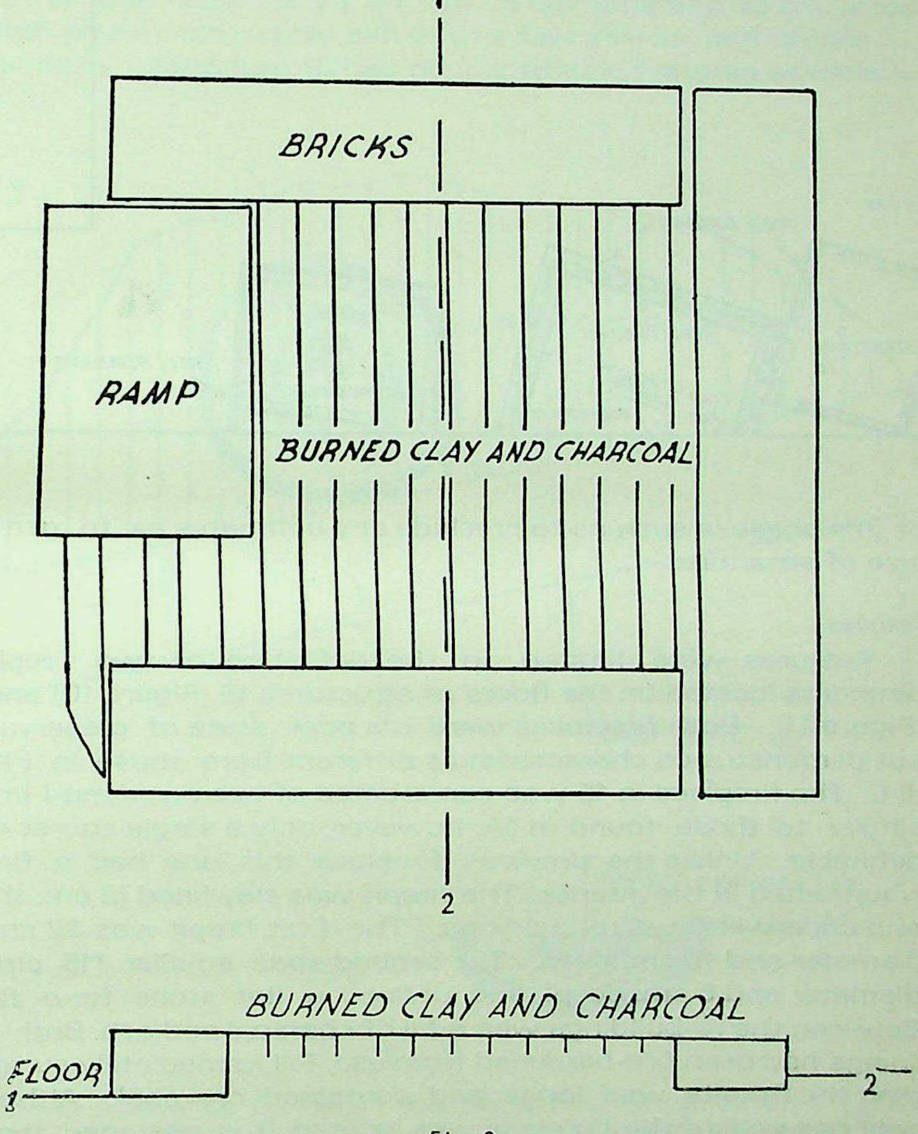

1
BRICKS
RAMP
BURNED CLAY AND CHARCOAL
2
BURNED CLAY AND CHARCOAL
FLOOR
1
2

Fig. 8

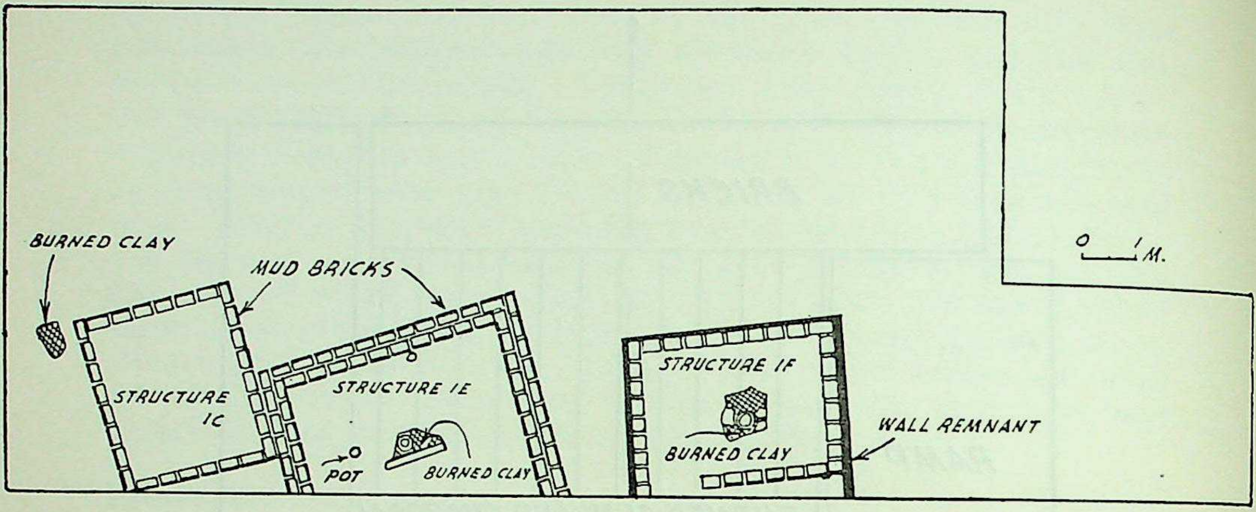


Fig. 9

of this phase is such as to preclude any estimates as to general size of structures.

Features

Features were limited to the definition of two fireplace remnants located on the floors of structures 1E (Figure 10) and 1F (Figure 11). Both fireplaces were in a poor state of preservation but demonstrated characteristics different from those in Phase III C. The fireplace in 1E was constructed of oversized mud bricks similar to those found in 1A; however, only a single course was definable. Unlike the previous fireplace this one had a firepit constructed in the interior. The firepit was clay lined (2 cm. thick) and underwent two re-buildings. The first firepit was 32 cm. in diameter and 10 cm. deep. The second was smaller (15 cm. in diameter and 5 cm. deep) and utilized a flat stone for a floor. Between the re-buildings was a fill of charcoal and ash. Both clay linings had been fire-hardened from use. Fill immediately surrounding the firepits was loose and contained charcoal. Although only one wall of the fireplace was located, it is assumed that it was completely enclosed in manner like the one found in 1A.

Structure 1F also contained a fireplace in a similiar state of incomplete preservation. The mud bricks used in its construction were in a fragmented state and it was impossible to determine if they were of comparable dimensions to those associated with other fireplaces. The interior firepit was defined by a clay lining (2 cm. thick) surrounded by loose fill and broken bricks. Dimensions of the firepit were 27 cm. in diameter and 10 cm. deep. Interior pit fill was mainly ash with a few sherds and stones on the bottom. Structure 1C had no identifiable features associated with it.

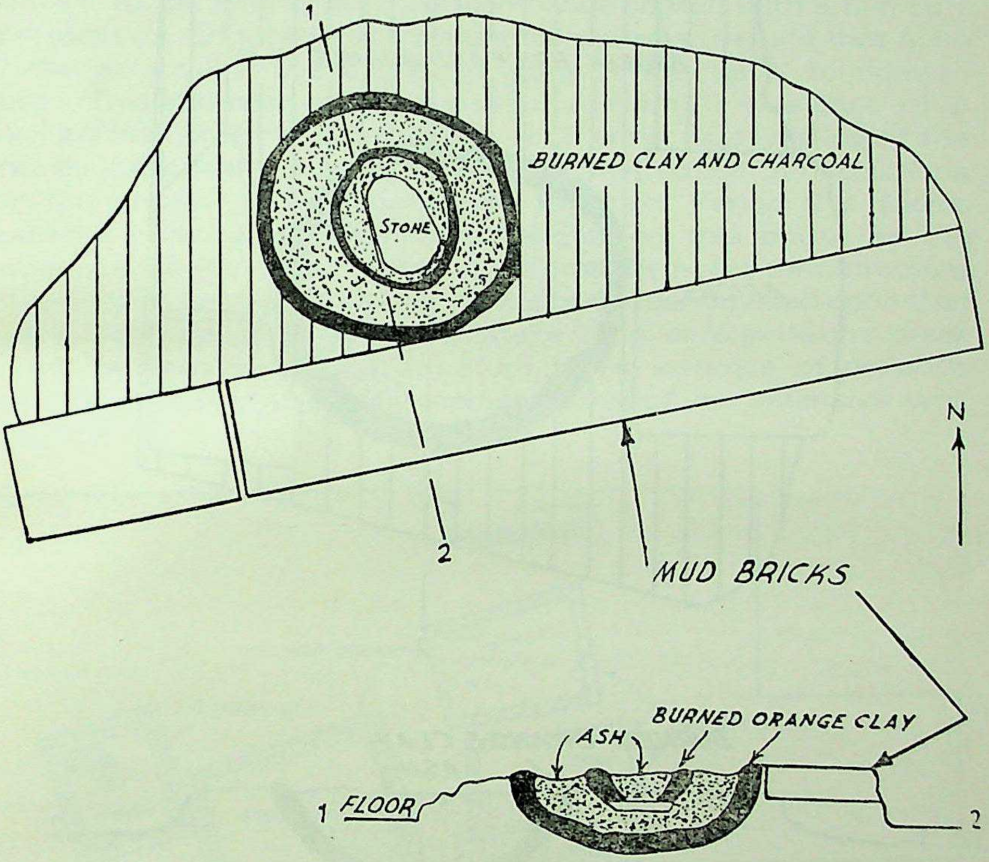

1
BURNED CLAY AND CHARCOAL
STONE
N
2
MUD BRICKS
BURNED ORANGE CLAY
ASH
1 FLOOR
2

Fig. 10

As in Phase III C, with the exception of structure 1E, the floors did not demonstrate any special preparation other than the initial leveling, Floors were definable by floor features and/or the wall foundation courses.

Phase III A

The last phase (Figure 12) of this period continues the architectural continuity noted in Phase III B. Habitation units (1E floor

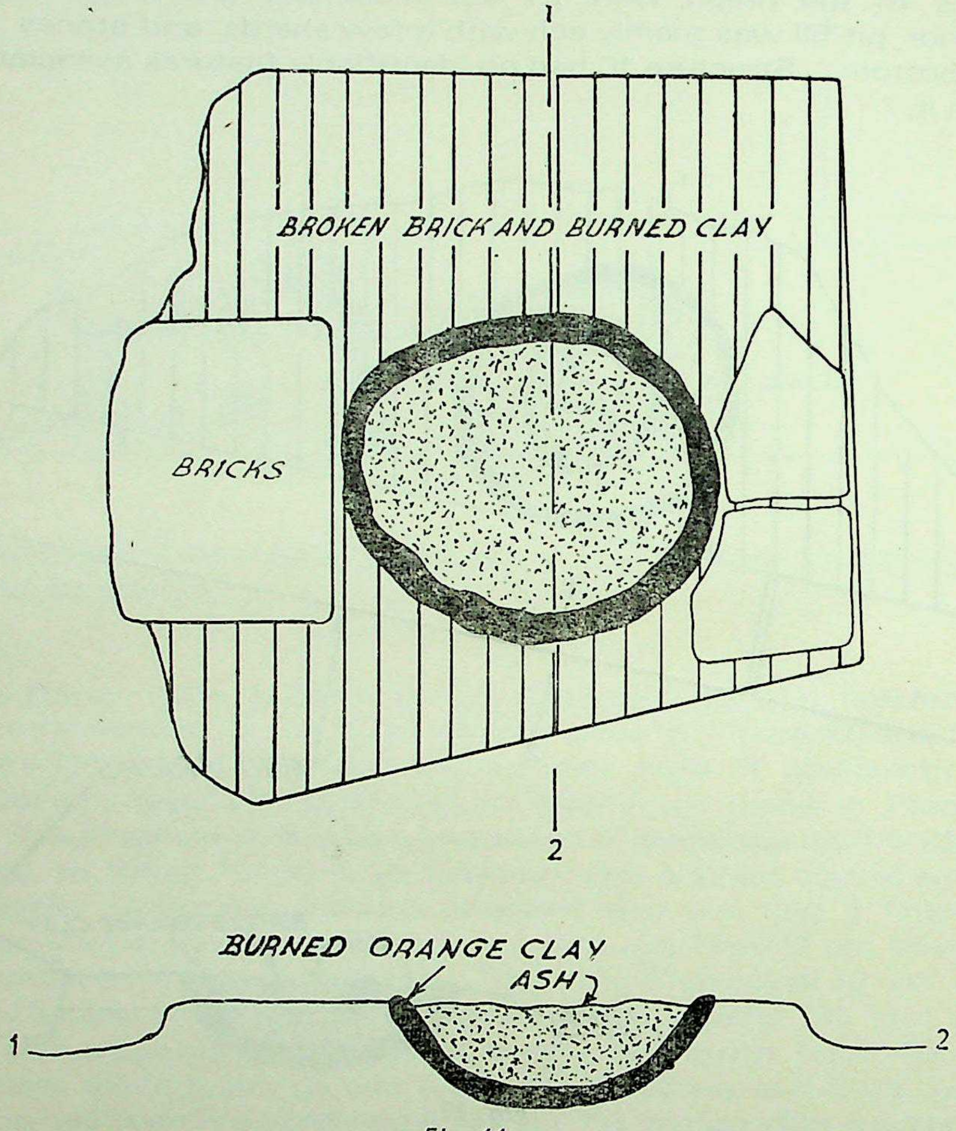

1
BROKEN BRICK AND BURNED CLAY
BRICKS
2
BURNED ORANGE CLAY
ASH
1
2

Fig. 11

3, 1F', 1J, 1H, 1C') continue to be rectangular, mud brick (similar size), single room units. Methods of construction remain the same with about half the structures being constructed of single and the other half double coursed walls. Additional structure walls were located but time and limits of excavation prevented their precise definition. Again the architecture conveys a generic relationship with that of the later phases of this period, thereby continuing the pronounced degree of cultural continuity.

Structures

Structural characteristics for this phase were quite consistent with those described for Phase III B. Method and type of unit constructed remained the same. There does appear to be a slight reduction (1 meter) in the long axis of the unit. With the exception of 1C' all interior wall surfaces were coated with a thin buff clay plaster. Of stratigraphic significance was the fact that none of the structures' walls utilized earlier walls as a foundation base. This situation could have resulted from (1) existence of a level surface prior to construction, or (2) conscious leveling of the area by individuals responsible for the construction of habitations for the phase. In anticipation of the next Period this factor presents a strong argument for designating this phase as the initial one for Period III. However, it must be noted that structure 1H did utilize another wall, but it was not superimposed upon that wall in such a manner as to indicate a long or significant break in the occupation of the structure, This instance of previous wall utilization is more likely representative of an extensive wall repair.

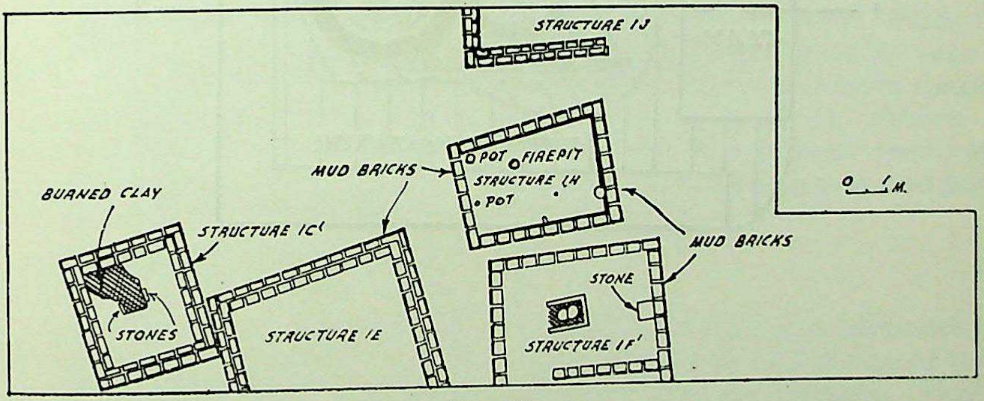


Fig. 12

Features

Again the features are limited to fireplaces and firepits. Three features were located one each in structures 1F', 1H and 1C', all of which were different from each other and from previously described examples.

A simple firepit was located in the floor of structure 1H. It differed significantly from the others in that instead of a fire-hardened clay lining it utilized the lower portion of a pot.

Construction was by excavation of a pit in the floor the approximate size (22 cm. in diameter by 10 cm. in depth) of the lower portion of the pot. The interior of the pot (or firepit) was filled with ash and charcoal.

On the floor of 1F' a fireplace not dissimilar to that described for 1A was located. However, instead of walls constructed from mud bricks were solid banks of built-up clay fire-hardened from use (Figure 13). The open rectangular shape was of similar dimensions to that in 1A and a mud brick ramp had been placed at the open end. Two clay lined firepits were located in the centre. The large firepit (25 cm. in diameter and 10 cm. deep) had two types of clay lining, a lower one, the initial pit, of a fire-hardened orange clay (2 cm. thick) and an upper one around the orifice of

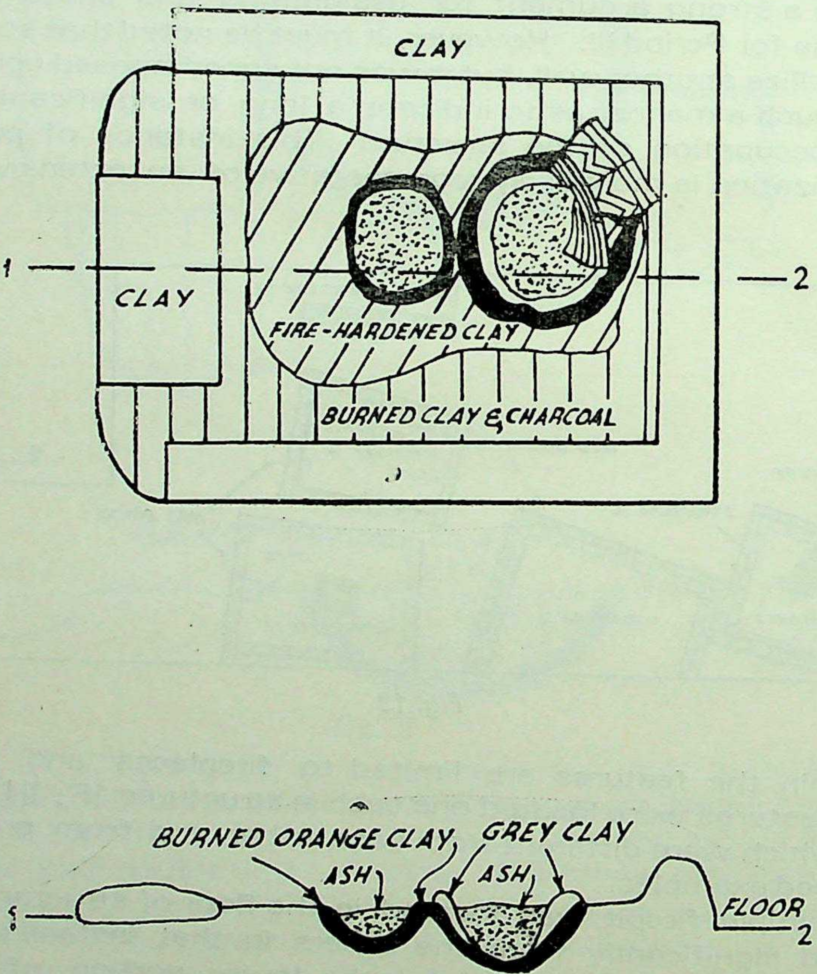

CLAY
1
CLAY
2
FIRE-HARDENED CLAY
BURNED CLAY & CHARCOAL
BURNED ORANGE CLAY
GREY CLAY
ASH
ASH
1
FLOOR
2

Fig. 13

gray baked clay (2cm. thick). The smaller firepit (17 cm. in diameter and 7.5 cm. deep) had only the fire-hardened orange clay lining. Both firepits had ash fill and the larger one also had three large sherds of Quetta Black-on-buff—Variant 2 Black-on-buff Surface located in it. Surrounding both firepits was an area of partially fire-hardened orange burned clay. The fireplace was located directly below the one found on the floor of structure 1F in Phase III B.

Located in structure 1C' was one of the most unusual fireplaces recorded. Set directly into the floor were two metate fragments on their long axes 30 cm. apart. The exterior metate edge was to the top and the rough fragmented side was set into the floor. Medially located on the exterior edges were single, small grooves (2 cm. in diameter) which were polished from use. On the floor between the metates, and extending to the northwest corner of the room, was an area of fire burned earth and charcoal. It would appear that this was a rotisserie complex. In light of this possibility the analysis of the fauna remains found in this room will be extremely enlightening as to the possible function of this structure.

A single additional floor feature needs mention here. Medially located and flush against the east wall of structure IF' was a small step or platform constructed from clay. The exact nature and function of this feature remains to be determined. Floors in general were distinguishable only by the presence of features, wall foundation courses, or the occurrence of flat sherds and pots located *in situ* (especially in 1H).

PERIOD II—PREHISTORIC

On the basis of the preliminary analysis this period appears to be of major significance at Said Qala Tepe. Only one phase of this period was sampled in Trench A due to time limitations. However, a much larger sample was obtained from the *sondage* which indicates the major proportions of this period. Unfortunately, the small *sondage* size prevented establishment of additional phases which will have to await future excavations. The major stratigraphic considerations for establishment of a period separate from that of Period III were discussed in Phase III A. In addition there are significant differences in architecture and other cultural items (ceramics) which argue for the identity of this period.

Phase II A

Only limited excavations into this phase were accomplished in Trench A. Although limited, these excavations demonstrated significant changes in structures and features, The major habitation unit was no longer the single rectangular unit. In its place were found multiroom rectangular (1L, 2L, 3L, and 1M, 2M, 3M) structures, and large single room trapezoidal (1K, 1P) units (Figure 14). Construction continued in the same method and utilized similar sized mud bricks. The first possible true "oven" was identified in this phase.

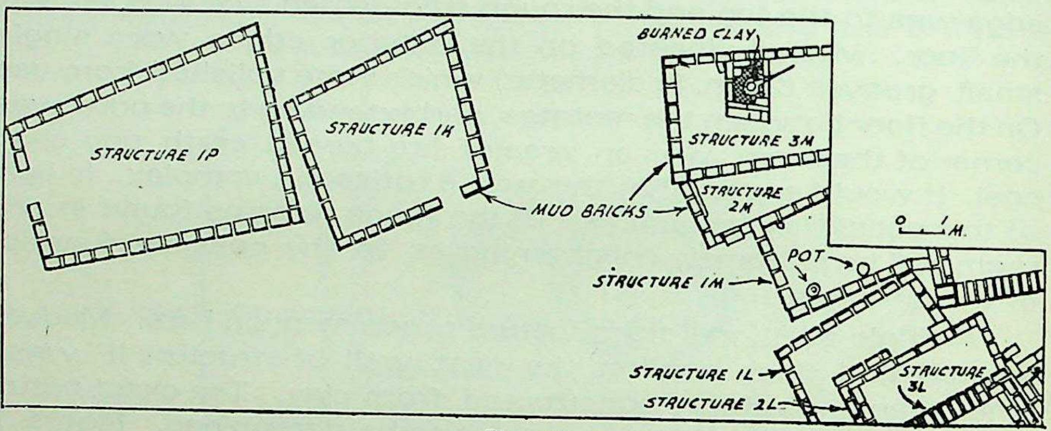


Fig. 14

Structures

The multiroom structures M and L are smaller (by at least 0.5 meters in both length and width) in dimensions than those found in the earlier phases of Period III. Method of construction remained the same with double coursing occurring where walls of different rooms adjoined in structure L. Utilized for the first time are a few small sized (20-18-15 cm.) mud bricks to adjust for corners and doorways. At least in one instance the doorway into one room of structure L had been sealed off. Another significant characteristic of structure L was that the wall separating rooms 2L and 3L was constructed from parallel rows of headers. This characterictic combined with what appears to be a true corner for the east wall indicates that this separating wall was added after construction of the main structure.

Multiroom structure M was composed of at least two main rooms--IM and 3M. The connecting room--2M--is problematical because of the manner in which it angles out towards the east and needs further excavation for clarification. Room 2M is notable for the presence of a clay ramp, or step, in the southwest corner, the only such located at the site. The south wall of room 1M abutts against the wall of another structure which was impossible to define in the present excavations. Without further excavation functional designations of these various rooms were not possible. The high incidence of artifacts on the floor of room 1M and the presence of an "oven" in 3M might be indicative of a functional specialization.

The single room trapezoidal structures (1K and 1P) were among the most interesting uncovered. This was due not only to their significantly different shape but also to the large quantity of cultural material that was recovered from their fill. The walls of structure 1K were in a poor state of preservation and difficult to determine. Floor features were lacking, and there is a distinct possibility that the true floor level had not been reached when the excavations were halted. Structure 1P was in a similar state of preservation. Significant wall repair had taken place in the southwest corner of the room (Figure 15), and a lateral doorway was found in the west wall. The stratigraphy of the southwest corner was an important example of wall repair, which

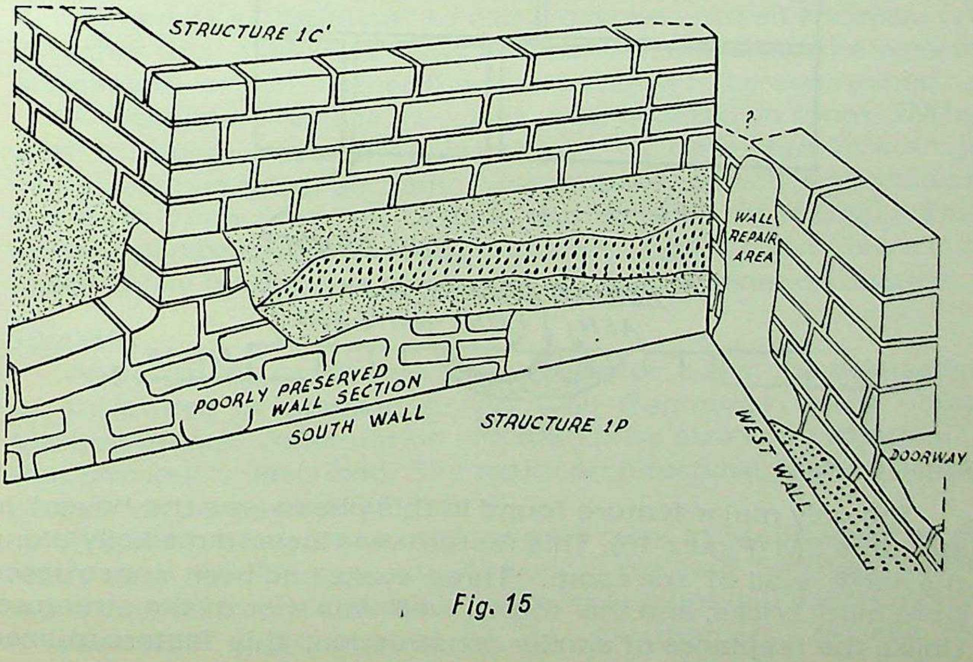


Fig. 15

indicated that the south wall of 1P had not served as a foundation for the later structure 1C.' All structures of this phase had a buff clay plaster on the interior wall surfaces.

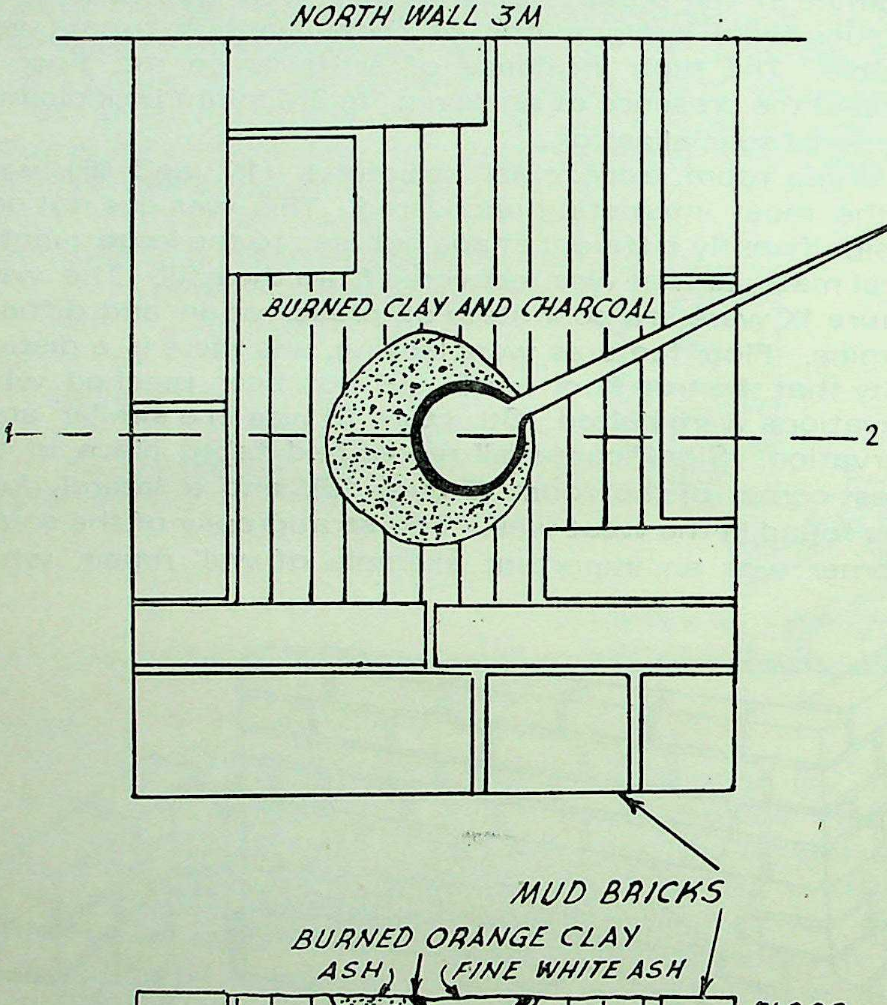

NORTH WALL 3M
BURNED CLAY AND CHARCOAL
1
2
MUD BRICKS
BURNED ORANGE CLAY
ASH
FINE WHITE ASH
FLOOR
2

Fig. 16

Features

The only major feature found in this phase was the "oven" in structure 3M (Figure 16). This feature was located medially along the north wall of the room. Three walls had been constructed from mud bricks, and the fourth wall was that of the structure. Unlike the fireplaces of similar construction, this feature utilized mud bricks of similar dimensions used in wall construction which had become fire-hardened through use. The "oven" south wall was of double course construction which was unique at the site. The firepit in the centre is of special importance. It consists of a large outer pit (32 cm. in diameter and 10 cm. in depth) excavated into the "oven" floor. A smaller shallower inner pit (14 cm. in diameter and 5 cm. in depth) was constructed with typical clay lining fire-hardened from use. The area between the two pits was filled with ash and charcoal. Located at an angle to the northeast of the inner pit was a small semi-circular trench which had a clay lining only at the point of contact with the inner firepit. This trench was semi-circular in cross-section (3 cm. wide and 2 cm. deep) and decreased in size as it extended away from the oven until reaching floor level. The inner firepit was filled with a very fine white ash. A few additional bricks were present in the northwest corner, and the rest of the interior fill was spotted with charcoal. The trench itself had a fill of charcoal and ash. This feature is designated as an oven for the following reasons : (1) The additional support provided by double coursing and utilization of main structure wall suggests some sort of superstructure might have been present. (2) More convincing is the trench into the inner firepit. From all appearances this trench functioned as a "bellows" to allow oxygen into an enclosed fire. Whether this oven was used for baking bread (as the workers suggested), or some other function remains to be determined.

A possible fireplace remnant was located in room 2M but was in a poor state of preservation. It consisted of a single oversized mud brick, partially fire-hardened, which was associated with such features before, and an area of orange burned earth with extensive charcoal remains. Again floors were indicated solely by features, artifacts, or wall foundation courses.

SONDAGE

Although the small area excavated prohibited the delineation of structures or phases, a few wall fragments were noted. Method of wall construction and mud brick size were identical to that previously described. The major architectural feature of this period was a large wall (Figure 4).

The wall was constructed of mud brick stretchers placed directly upon leveled ground. Although the wall extended northward beyond the excavation limits, the following description is a reasonable approximation of its construction. Initially the ground was leveled to provide a flat surface for the wall construction. Multiple foundation courses extended southward into the *sondage* for a distance of ca. 2.4 meters. How far north the foundation extended is unknown, but at least one or more meters is probable. These multiple foundation courses were built to a height of between 0.9 and 1.0 meters. At this point two sub-walls of several courses (1.45 m. thick) were constructed to form parallel faces of the wall. The resulting interior core was filled with cleaned clay to provide stability.

Wall faces had no detectable plaster on them. At only one point (Figure 4) in the north profile were brick lines definable which might have indicated the interior face of the other sub-wall.

The wall remnant exposed by the *sondage* was approximately 4 meters in height. Judging from the amount of wall fall, it might have extended an additional two meters in height originally. The wall was the major structure of this period, indeed of all periods, and the wall base combined with the leveling evident for its construction is interpreted here as marking the termination of Period II. For this interpretation there is some supportive ceramic evidence (see below). Certainly, future excavations will result in the division of this extensive period into phases.

PERIOD I—PREHISTORIC

Period I was sampled only in the *sondage*. It consists of cultural remains uncovered in strata positioned below the large wall of Period II. Because of the limited sample, it was impossible to make any phase divisions for this period. Perforce, the only statements which can be offered are of a general nature. The discontinuities located in this period have been previously discussed and will not be repeated.

Structures

No complete structures were definable in the present excavations. Structures were present, however, which allow for a few general statements to be made. Mud bricks of the same general size continue to be utilized as the main construction material. The method of construction was by placing foundation courses of stretchers (single or double?) directly on leveled surfaces.

CERAMICS

INTRODUCTION

Ceramics (potsherds) were the most numerous artifact type found at Said Qala Tepe, totaling almost 90,000 sherds, Whole or partially reconstructable pots were separated in a whole vessel count. The lack of time and personnel prevented reconstruction of save the obviously associated vessel fragments. Every sherd was classified as to type and recorded. Each rim and base sherd was classified according to its morphology and quantified for each type and level. This enabled the delineation of vessel form changes temporally and their association with specific types.

MORPHOLOGICAL TERMINOLOGY

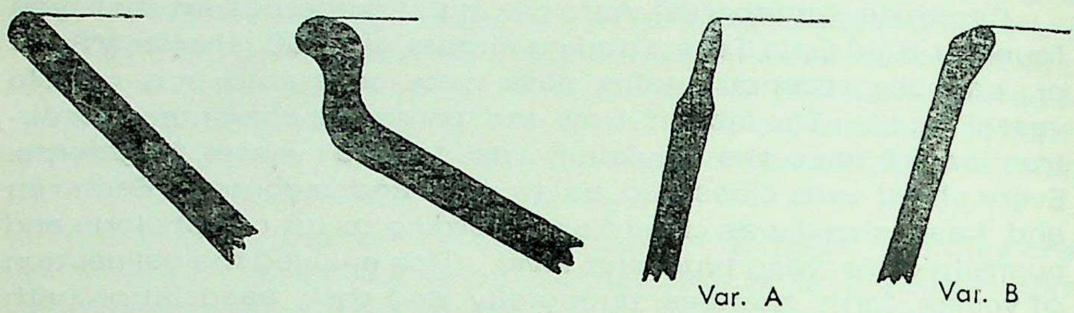
Throughout the Middle East there is tremendous proliferation of ceramic terminology, much of which is specific to the site of origin and of little help in understanding the broad cultural processes which have taken place. The result is a myriad of terms regarding ceramic types, and vessel forms found within types. This unfortunate situation is especially prevalent in vessel morphologies and, seemingly, "one archaeologist's beaker is another's small jar." A notable attempt to ovecome this difficulty will be the ceramic analysis of Tosi (1969) at Shahr-i Sokhta. Unfortunately, the limitations upon the present excavations were such that the analysis for Said Qala Tepe could not be keyed into that of Shahr-i Sokhta. Consequently, definitions for terms utilized in this analysis are presented here in an attempt to eliminate some of the subjectiveness inherent in such classificatory schemes.

Lip Forms

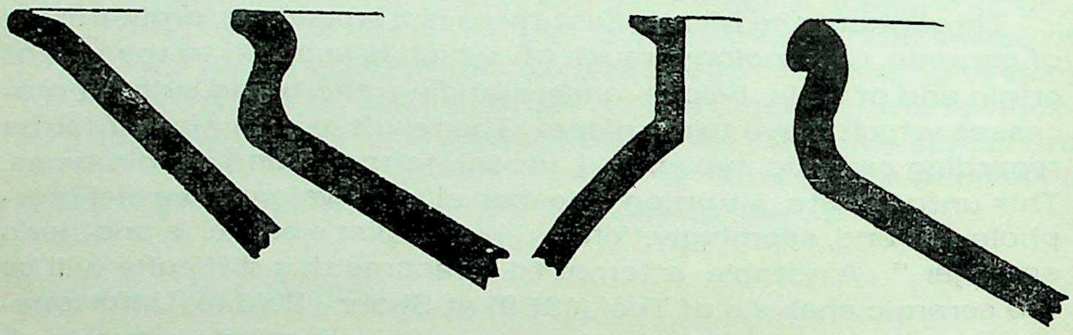
The lip, as defined here, is that area of the vessel walls where exterior and interior wall surfaces cease to be parallel. This area is located within 2 cm. of the vessel orifice. Although a wide variety of lip forms was recorded and quantified, they have been grouped into two major categories so that individual vessel peculiarities do not distract from general patterns (Figure 17).

Plain Lip Forms

The vessel wall surfaces are joined by rounding, flattening, or pinching together of the two surfaces. Two distinct minor varieties of this form were observed on beaker/goblet/small jar vessel forms.



Plain



Rolled

Fig. 17

Variant A—Thinned Lip

This category is defined by a pronounced vessel wall thinning in the upper portions of the wall profile. At the orifice, vessel wall surfaces are joined together by a rounding of the wall.

Variant B—Thickened Interior Lid Forms

This variant has a pronounced thickening on the interior wall surface within 1 cm. of the orifice. Thus, the juncture of the vessel wall surfaces at the orifice have a C-shaped curve.

Rolled Lip Forms

Lips in this category have their parallel wall surfaces joined at the orifice by constructing a clay extension of the vessel walls out beyond the exterior line of the lower vessel wall profile. The extension's profile is either triangular or ovoid. A similar, but much smaller, ovoid extension is occasionally encountered on the inside surface of the orifice.

Base Forms

A base, as here defined, is that part of a vessel which connects opposing vessel walls and is located opposite the orifice. Five sub-categories were identified among the wider variety of forms found among vessels (Figure 18).

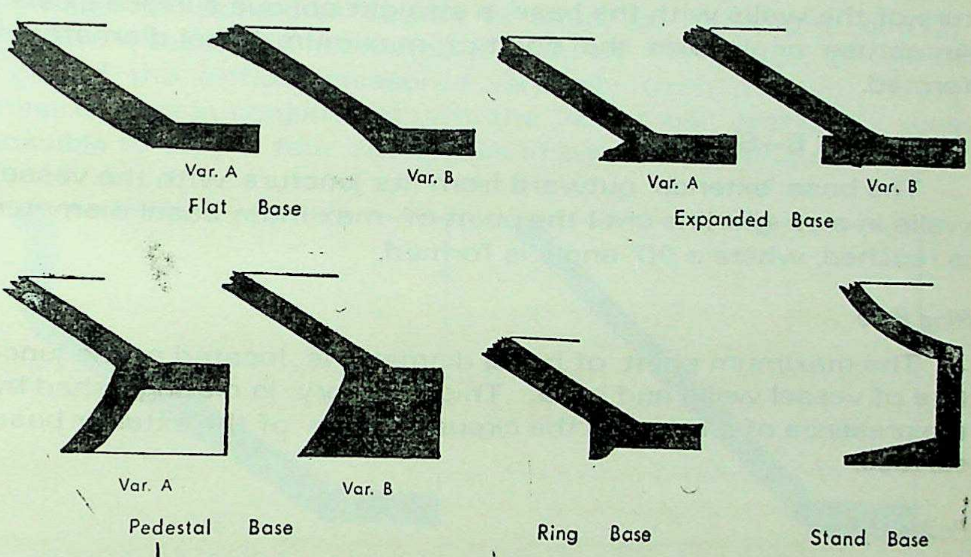


Fig. 18

Flat Base

Maximum basal diameter occurs at the juncture of vessel walls with the base. Utilizing the vessel wall profile immediately above this juncture, two variants are determinable.

Variant A—Simple

At the point of juncture the vessel wall angles upward in a straight or slightly concave line.

Variant B—Convex

At the point of juncture the vessel wall angles upward in a slightly convex line,

Expanded Base

The maximum point of basal diameter is located beyond the point of juncture between the vessel walls and base. Two varieties may be defined by profile differences between the points of maximum basal diameter and juncture with the vessel walls.

Variant A—Angular

Between the point of maximum basal diameter and the juncture of the walls with the base, a straight oblique surface exists. An obtuse angle with the point of maximum basal diameter is formed.

Variant B—Square

The base extends outward from its juncture with the vessel walls in a stright line until the point of maximum basal diameter is reached, where a 90° angle is formed.

Ring Base

The maximum point of basal diameter is located at the juncture of vessel walls and base. This category is distinguished by the presence of a ridge on the circumference of the exterior base surface.

Pedestal Base

This category is defined by a vertical separation of at least 2 cm. (measured at a 90° angle) between the points of maximum basal diameter and juncture of vessel walls with the base. Two varieties of this vertical separation (pedestal) were identified.

Variant A—Hollow

The area between juncture of vessel walls with the base and point of maximum basal diameter is constructed by means of opposing vessel walls. These walls are connected above the point of maximum basal diameter.

Variant B—Solid

The area between juncture of vessel walls with the base and the point of maximum basal diameter is constructed with a single unit of cavity free clay.

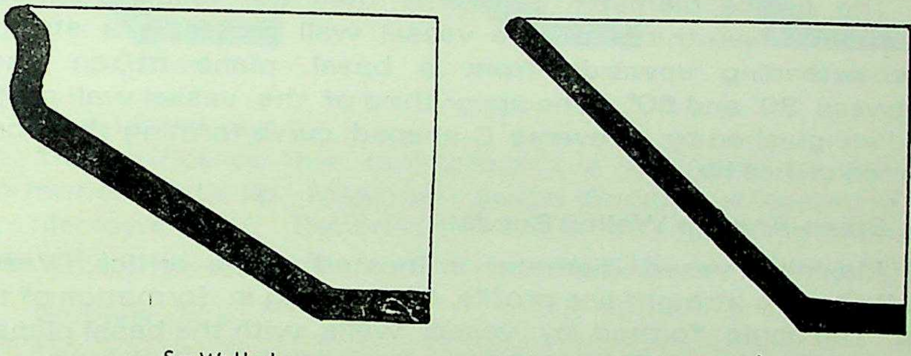
Stand Base

The major characteristic of this category is that the point of maximum basal diameter is separated from the point of juncture of vessel walls with the base by a solid column of clay.

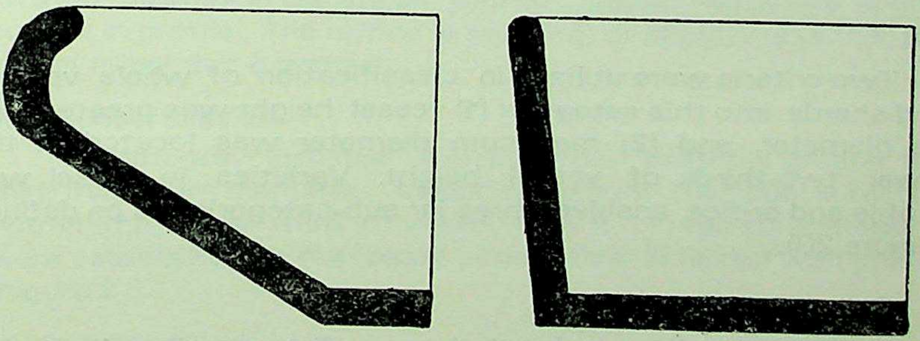
Vessel Forms

Bowls

Two basic criteria were established for the classification of a whole vessel, or sherd, into the bowl category: (1) vessel diameter had to be greater than, or equal to, its height, and (2) maximum vessel diameter was located at the orifice, or within 6 cm. of the orifice (measured vertically from the lip). Using these criteria in conjunction with the vessel wall profiles, it was possible to define four categories of bowl forms (Figure 19).



S—Walled. Angular — Walled



Constricted Walled. Steep—Angular Walled

Fig. 19

Angular-Walled Bowls

Vessel maximum diameter is always located at the orifice. Between the base and lip is a straight angular line profile. Vessel walls form an exterior angle of between 30° and 60° with a horizontal plane.

S-Walled Bowls

Vessel maximum diameter is located at the orifice or within 6 cm. of the lip. Approximately two-thirds of the vessel wall profile is a straight line extending upwards from the basal plane at an angle of between 30° and 60°. In the upper one-third of the vessel the walls develop an S-shaped curve that concludes in formation of the lip.

Constricted Bowls

The orifice diameter is smaller than the vessel maximum diameter. Two-thirds of the vessel wall profile is a straight line extending upwards from a basal plane at an angle between 30° and 60°. The upper third of the vessel wall profile is distinguished by a reverse C-shaped curve forming the constricted orifice lip.

Steep-Angular Walled Bowls

Maximum vessel diameter is located at the orifice. Vessel walls have a straight line profile, terminating in formation of the lip. The angle formed by vessel walls with the basal plane is between 60° and 90°.

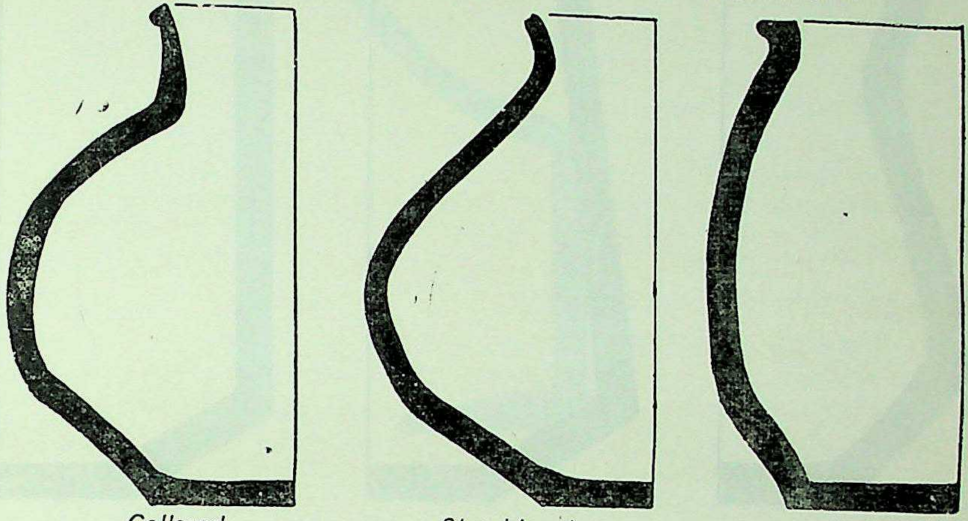
Jars

Two criteria were utilized in classification of whole vessels and sherds into this category: (1) vessel height was greater than its diameter, and (2) maximum diameter was located in the lower two-thirds of vessel height. Varieties in vessel wall profile and orifice enabled three jar sub-categories to be defined (Figure 20).

Collared Jars

The vessel orifice is located on a distinct collar, limited to the upper third (or less) of vessel height. Collar walls formed an angle of 80° to 120° with the immediately adjoining vessel walls. Two variants of this sub-category were distinguished:

(1) tall collared jars—those with a collar of 3 cm. or more, and (2) short collared jars—those with a collar of less than 3 cm.



Collared *Shouldered* *Globular*

Fig. 20

Shouldered Jars

The orifice of this sub-category is distinguished only by formation of the lip. Maximum vessel diameter is located in the profile lower half. Between the point of maximum diameter and the lip, vessel walls are straight and form an obtuse angle.

Globular Jars

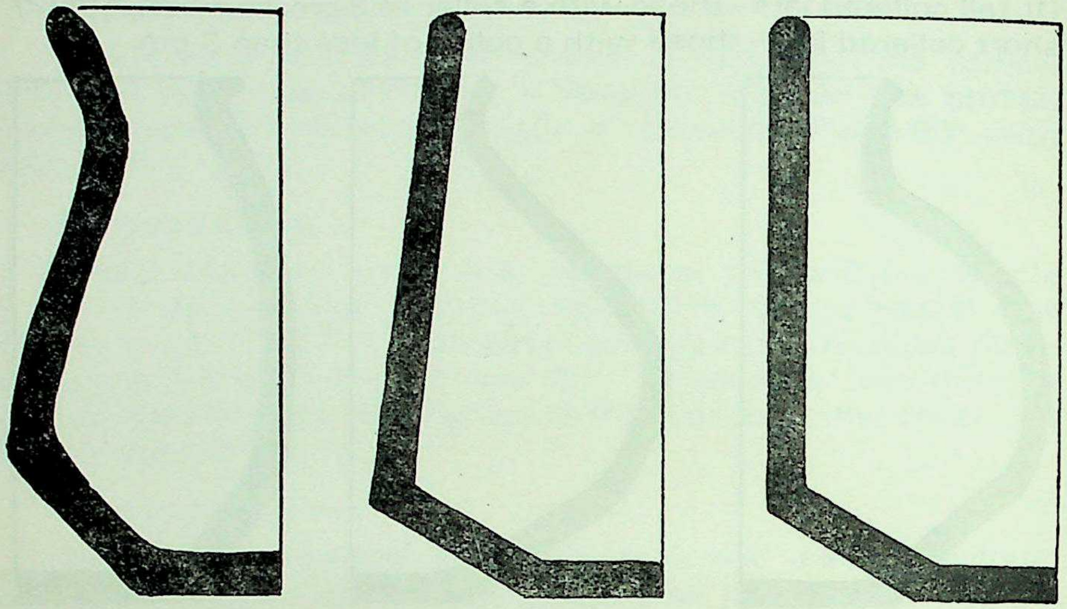
The point of maximum diameter in this sub-category is located medially in the vessel profile. Vessel walls are slightly convex in profile. The orifice is equal to, or slightly less than, the vessel maximum diameter.

Beaker/Goblet/Small Jar

This category includes vessels whose height is greater than their maximum diameter. Vessel maximum diameter is reached within the lower third of vessel height. Three sub-categories were established on the basis of varieties in vessel wall profiles (Figure 21).

S-Walled Vessels

The distinguishing characteristic of this sub-category is the S-shaped curve of the vessel wall profile. Generally the orifice is slightly less than, or equal to, vessel maximum diameter



S—Walled Straight — Constricting - Parallel

Fig. 21

Straight-Constricting Walled Vessels

At the point of maximum diameter the straight vessel walls extend upward and inward at a 45° to 85° angle. The orifice, then, is always slightly less than the maximum vessel diameter.

Parallel-Walled Vessels

At the point of maximum diameter the vessel walls are extended upward at an angle of 90°. Therefore, the orifice is always equal to the vessel maximum diameter.

Dish-on-Stand Vessels

The major characteristic of this category is a solid column separating the base from the main vessel body (Figure 22). The few fragments (less than 10 examples) of columns found did not exceed 10 cm. length. Atop the column was a small shallow angular walled bowl (dish?). Bowl diameters never exceeded 15 cm. and depth was less than 5 cm.; however, the bowl sample size was very small (less than 6 examples).

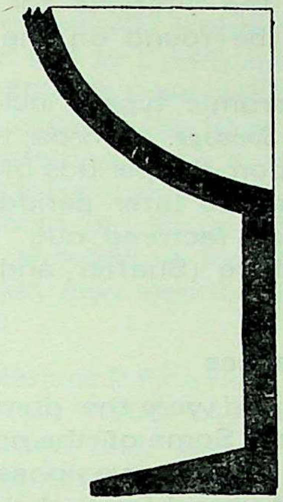


Fig. 22

POTTERY TYPES

Prior to the excavations and analysis, a comparative ceramic study from the related sites of Mundigak (Casal 1961), Deh Morasi Ghundai (Dupree 1963), Shamshir Ghar (Dupree 1958), and to a more limited extent the Quetta Valley (Fairservis 1956) was conducted at Kabul Museum and the French Archaeological Mission to Afghanistan quarters. The pottery encountered at Said Qala Tepe demonstrated a high degree of similarity, if not identical, with that described for these sites. Such similarity is not unexpected, given the close proximity of these sites (Figure 37). Classification of pottery within these types, especially those in the Quetta report, illustrate the area's close cultural interactions and obviates the needless addition of new terminology.

The typologies described by Fairservis (1956) for the Quetta Valley report, and, by Dupree (1963) for Deh Morasi Ghundai, have been extensively used in this analysis. The similarity in type descriptions of the two reports has prompted incorporation of the types described. Wherever applicable the type descriptions and designation of Fairservis have been used. The equivalent types of Dupree have been noted in each case. In some instances the present analysis has enabled additional data about individual types to be presented. However, where such data is not forthcoming only the citations for each type are given. Quantified data is to be found on the charts and tables of Appendix A.

This listing of ceramic types includes those found in both Trench A and the *Sondage*. In order to facilitate the concentration of discussion upon the periods of primary concern here-historic types belonging to later periods, namely the Kushano-Sasanian, have been factored out. These later types have been discussed elsewhere (Shaffer and Hoffman 1971; 1972; n.d.).

Prehistoric Quetta Ceramics

Ceramics of this period were the dominant types located in the present excavations. Some of the non-intrusive types were so numerous in Trench A that it was possible to conduct a limited attribute analysis of vessel form characteristics. A primary result of this analysis was the delineation of a major vessel from change through time at Said Qala Tepe. Those attribute changes which included all of the types involved are discussed in the section devoted to ceramic stratigraphy (pp. 64-74) and will not be included here. However, certain attributes and attribute changes were found to be type specific or to vary somewhat from the general pattern. These attributes of vessel form are discussed below under the appropriate type.

Undecorated Types

Badwan Buff

Defined by Dupree (1963: 73) at Deh Morasi Ghundai.

Comments: This is a minor type, limited to a few sherds located only in the latest periods of occupation.

Main Ghundai—Variant 1 Fine Brown

Defined by Fairservis (1956: 242, 244) for the Quetta Valley. At Deh Morasi Ghundai, Dupree (1963: 72-73) defined an identical type named Panjawi Cream.

Comments: Except for a few levels in the *sondage*, this was the second most frequent type of pottery encountered. A relative frequency of 30% for this type was found in all periods and phases defined in Trench A.

Variant Attributes: Bowls. Rolled and plain lip forms occur with equal frequency until Period IV when rolled forms dominate.

Steep-angular walled vessels progressively decreased in frequency from 4.95% in II A to 2.84% in IV. Jars. Rolled and plain lips have an almost equal frequency (33%) on tall collared vessels in Phase II A. Short collared jars have a somewhat higher frequency of 25% in Phase III A and II A, with plain lips reaching a frequency of 70% in II A on this form. A slightly higher (20%) frequency of shouldered jar forms occurs in this type. Rolled lips dominate the shouldered jars in Periods IV and III D. Beaker/goblet/small jar. Few identifiable sherds belonging to this category were found.

Mian Ghundai—Variant 2 Fine Red

Defined by Fairservis (1956: 244) for the Quetta Valley. An identical type, Maiwand Red, was described by Dupree (1963: 73, 76) for Deh Morasi Ghundai.

Comments: Except for a few levels In the *sondage* this was *the* most frequent type of pottery at Said Qala Tepe. Its relative frequency demonstrated a marked increase (in Trench A) of from 40% in Phase II A to 60% in Period IV (Figure 24).

Variant Attributes: Bowls. None. Jars. Short collared vessel forms maintained a frequency of almost 15% in all periods, with rolled lips dominant in Phase III D and Period IV. Shouldered jars have a much higher frequency of rolled lips in Phase III D and Period IV than in other types. Beaker/goblet/small jar. Only a few sherds of these forms were found. Parallel-walled vessels were located only in Phases III C and II A (15% frequency), with both thickened interior and thinned lip forms.

Said Qala Coarse Ware

Defined by Dupree (1963: 78) at Deh Morasi Ghundai.

Comments: This was the third most frequent undecorated type found at the site. It was the dominant type found in Period II of the *sondage*. The relative frequency underwent a marked decrease (in Trench A), from 22% in Phase II A to a mere 2.5% in Period IV. This was a progressive decrease, except for Phase III A, where a a sharp decrease occurred, followed by an increase in III B. The most important aspect of this type's frequency pattern is the correlation of its decrease in III A with a notable increased frequency for Quetta Slate Temper type pottery, which perhaps denotes the introduction of this latter type.

Variant Attributes: Bowls. Angular walled plain lip forms are dominant for *all* periods. Rolled lips have a high frequency which varies between 17% and 35%. S-walled vessels with plain and rolled lips had a frequency of 10% or less for all periods. Steep-angular walled forms never exceeded a frequency of 6% but did demonstrate an increase between Periods II to IV. Jars. Between Periods III and IV the total number of identifiable jar sherds never exceeded two per period. However, a marked increase (17sherds) occurs in Phase II A, with tall and short collared and shouldered vessel forms identified. Beaker/goblet/small jar. This vessel form could not be identified in this type until Phase II A (four sherds). Base forms. The angular expanding base form was dominant. Its frequency (except in Period IV) was higher than for any other type at the site, indicating, therefore, a direct association of this base form with the angular-walled vessel form for this type.

Quetta State Temper

Defined by Fairservis (1956: 250) for the Quetta Valley.

Comments: Among the indigenous undecorated wares, this type had the lowest relative frequency in all periods and was entirely absent from the *sondage.* Only a trace of this type was located in Phase II A (0.5%). Its highest relative frequency occurred in Phase III A (4%), after which it stabilized at a frequency of 2% for the remaining phases and Period IV. Ten sherds, scattered throughout the sequence, tempered with large crushed limestone fragments, are included in this type.

Variant Attributes: Bowls. Angular walled bowls with rolled lips are dominant in *all* periods (frequency of 90%). S-walled bowls (frequency 6%) with plain lips (frequency of 75% on this bowl form) do not occur until Phase III D and increase in Period IV (17%). No constricting walled forms of this type were manufactured. Jars. No sherds indicative of this vessel form were identified. Beaker/goblet/small jar. No sherds indicative of this vessel form were identified. Base forms. Vessels of this type were manufactured with the flat base of the simple variant. Therefore, a possible correlation exists for this type between angular walled bowls with rolled lips and this type of base form.

Decorated Types

Motifs

Although a detailed study of motifs of the various ceramic types at Said Qala Tepe is not possible at this time, some general observations can be made. Fairservis (1956: 271-327) has presented a very detailed catalog of motifs on these types, as has Dupree (1963: various pages) for Deh Morasi Ghundai material. These motif catalogs are applicable to the ceramics under discussion here, with the important exception of the *total absence of zoomorphic motifs* at Said Qala Tepe, exclusive of one intrusive sherd. The following introduction is concerned with how various motifs were utilized and combined on vessel forms among indigenous types.

Bowls

Decoration was primarily confined to interior vessel surface; however, exterior surfaces were infrequently found with limited decoration. The area decorated was the upper quarter or third of the vessel. Only in Periods III D and IV were a significant number of vessels found with the lower sections decorated (see discussion under base forms). Such decoration, when present, usually divided the area into quarters or thirds by use of multiple lines, zigzags, scallops, loops, and festoons. The area enclosed by these divisions would rarely have a single small motif, such as a circle or star. The upper section of the vessel was mainly decorated with linear motifs of multiple lines, zigzags, scallops, loops, and festoons. Commonly the open space created by such motifs was filled with hatching or comb motifs. These motifs also tended to divide the bowl into quarters or thirds. Less common were paneled motifs located in this upper zone. When present they were often solid motifs, such as opposing triangles or negative stars and alternating hatched filled festoons. Only rare examples of a plant motifs were located in the later periods.

Jars

Motifs were confined to the upper half of vessels. In most cases it was confined to the collar and that area immediately surrounding the collar or orifice. Generally decoration consisted of multiple horizontal bands with hanging scallops sometimes hatched filled. Paneled motifs, rarely encountered, divided the vessel into thirds or quarters. Solid motifs, such as rectangles, triangles, or negative stars, were utilized. Such motifs were also used in conjunction with multiple lines, chevrons, and zigzags.

Beaker/Goblet/Small Jar

This category of vessel form presented a rich motif repertoire. Decoration was limited to exterior surfaces only and confined to the upper two-thirds of the vessel. Although vessels having only multiple horizontal lines were found, the majority had their motifs executed in panels. Solid and hatched filled motifs occurred with about equal frequency. Solid motifs commonly consisted of : triangles, stepped triangles, dots, crosses, and rectangles. Hatched motifs included alternating festoons, herring-bone patterns, crosses, and rectangles. The only examples of pipal leaf motifs, through rare on indigenous ceramics, are found on vessels of this form category.

Dish-on-Stand

On examples of this rare vessel form, motifs were always on the exterior surfaces and confined to the bowl area. These bowls were exclusively decorated with a zigzag pattern of multiple-width lines that divided the bowl into thirds.

The above brief discussion of motifs on decorated indigenous pottery at Said Qala Tepe is applicable to the types listed below.

Quetta Black-on-surface—Variant 1 Black-on-brown

Defined by Fairservis (1956: 259, 261) for the Quetta Valley. An identical type was described by Dupree (1963: 78-79) at Deh Morasi Ghundai as Morasi Black-on-buff Surface Ware.

Comments: This was the second most frequent decorated type found at the site. It had a relatively stable frequency of about 6% for all periods in Trench A (Figure 23).

Variant Attributes: Bowls. Rolled lips exceeded a frequency of 1% only in Phases III D(1.22%) and III A (2.12%). Steep-angle walled vessels and constricting walled vessels were virtually non-existent (3 sherds of each). Jars. Shouldered plain lip jars occurred in all periods with a frequency varying between 52% and 18%. The frequency of plain lips on shouldered jars was approximately 66-2/3% in all periods, except for Phases III A and II A where it reached 100%. However, rolled lips demonstrated a noticeable frequency increase in the later periods. Beaker/goblet/small jar. Straight-constricting walled forms are dominant until Period IV.

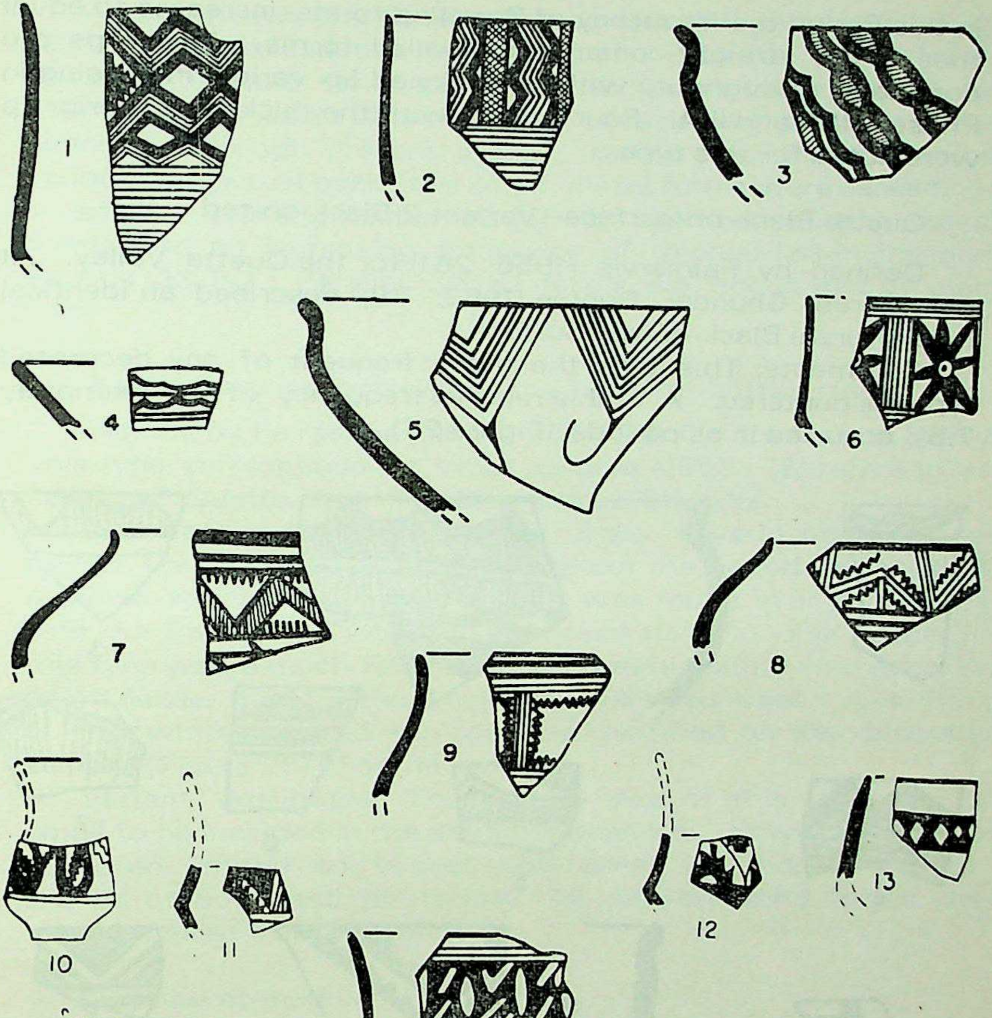

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Fig. 23

In this Period the frequency of S-walled forms increases to equal that of the straight-constricting walled forms. Plain lips are dominant throughout, with the thinned lip variety increasing in Phases III A and II A. Four sherds with the thickened-interior lip were noted for this type.

Quetta Black-on-surface—Variant 2 Black-on-red

Defined by Fairservis (1956: 261) for the Quetta Valley. At Deh Morasi Ghundai, Dupree (1963: 79) described an identical type—Nurzai Black-on-red Surface.

Comments: This was the most frequent of any decorated type encountered. A stable relative frequency of approximately 7.5% occurred in all periods (Figure 24).

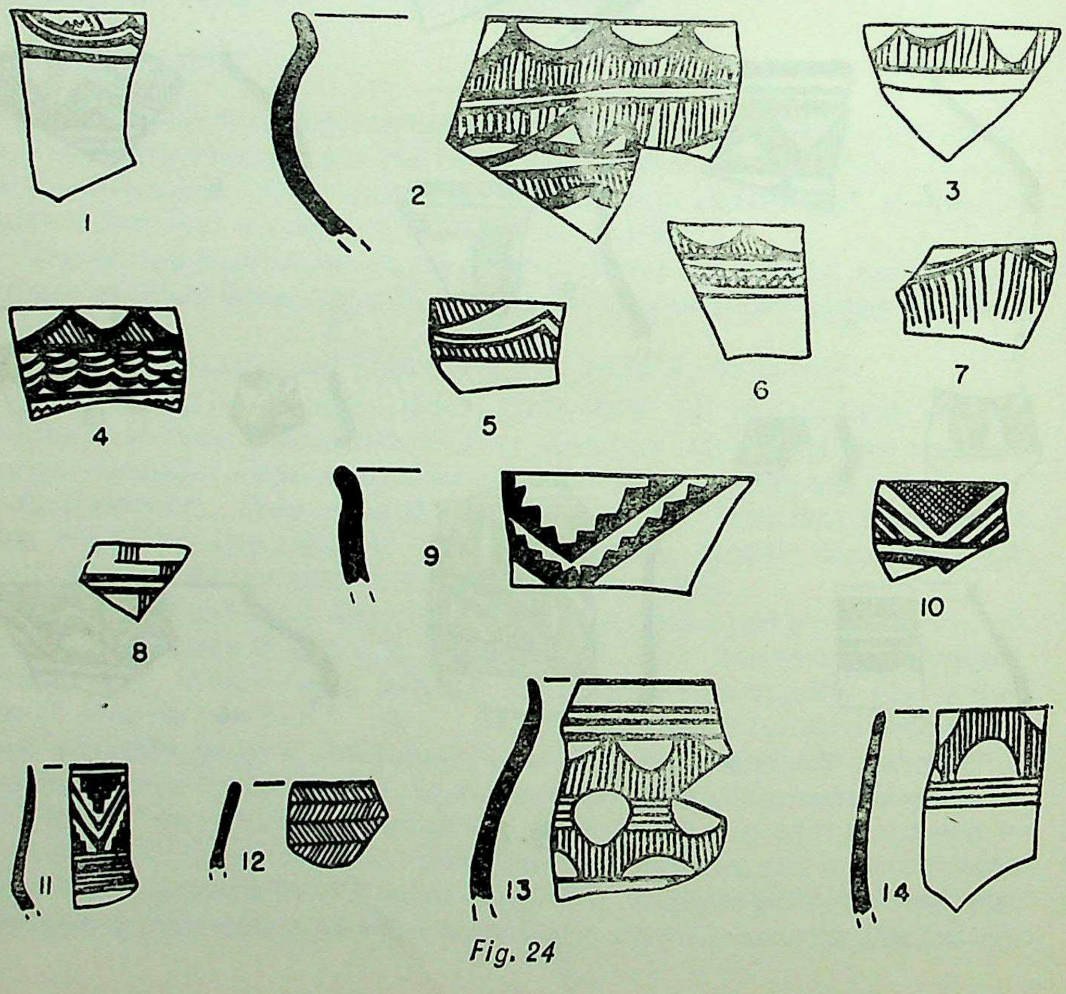


Fig. 24

Variant Attributes: Bowls. Throughout the periods rolled lip forms never exceeded a frequency of 1% on any vessel form. Steep-angular and constricting walled forms were notable by their absence. Jars. Short collared vessels had a very low frequency. Although present in high relative frequencies in some periods, the actual quantities of jar vessel forms were exceedingly small. Beaker/goblet/small jar. Straight-constricting vessel forms had an increasing frequency of thinned lips in the later periods (33-$\frac{1}{8}$%). Parallel walled forms are dominated by plain lips.

Quetta Black-on-buff—Variant 2 Black-on-buff Surface

Defined by Fairservis (1956: 255-256) for the Quetta Valley. This type corresponds to what Dupree (1963: 78) refers to as, ''Ware of 'Quetta Type' '' at Deh Morasi Ghundai.

Comments: Although absent from several levels in the *sondage*, the type was present throughout the periods in Trench A. A stable relative frequency of 0.5% was found in all periods, except for Phase III A where it increased to 1.0%. The temper for this type was a much finer sand, and paste texture was generally much denser than for the previously described types. A very thin buff to white coloured slip could be identified on the decorated surface (Figure 25) of some vessels.

Variant Attributes: The sample size of this type was too small to be included in the attribute analysis. However, the type appeared limited to beaker/goblet/small jar and, infrequently, sherds of bowl and jar forms. All dish-on-stand forms were manufactured from this type.

Burj Basket-marked

Defined by Fairservis (1956: 259) for the Quetta Valley.

Comments: In Trench A this type had a very low relative frequency (less than 0.5%) but was located in all periods. In the *sondage* it was found only in Period I, where it reached a relative frequency of 5.0%. Both buff and red varieties occurred, with the former being the most frequent. Tempering consisted of a medium coarse sand and chaff; however, a few examples with crushed slate temper (similar to Quetta Slate Temper) were identified for periods in Trench A. Contrastingly, sherds of this type occurring in the *sondage* had a chaff temper identical to that described for Said Qala Coarse.

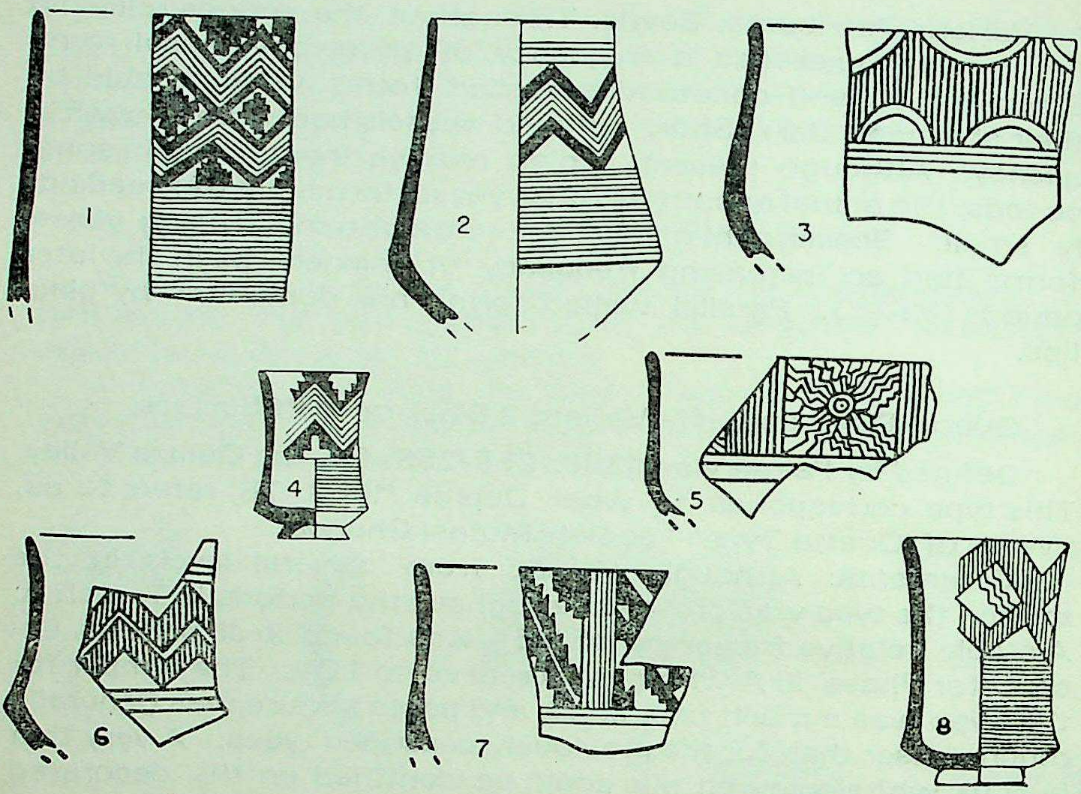
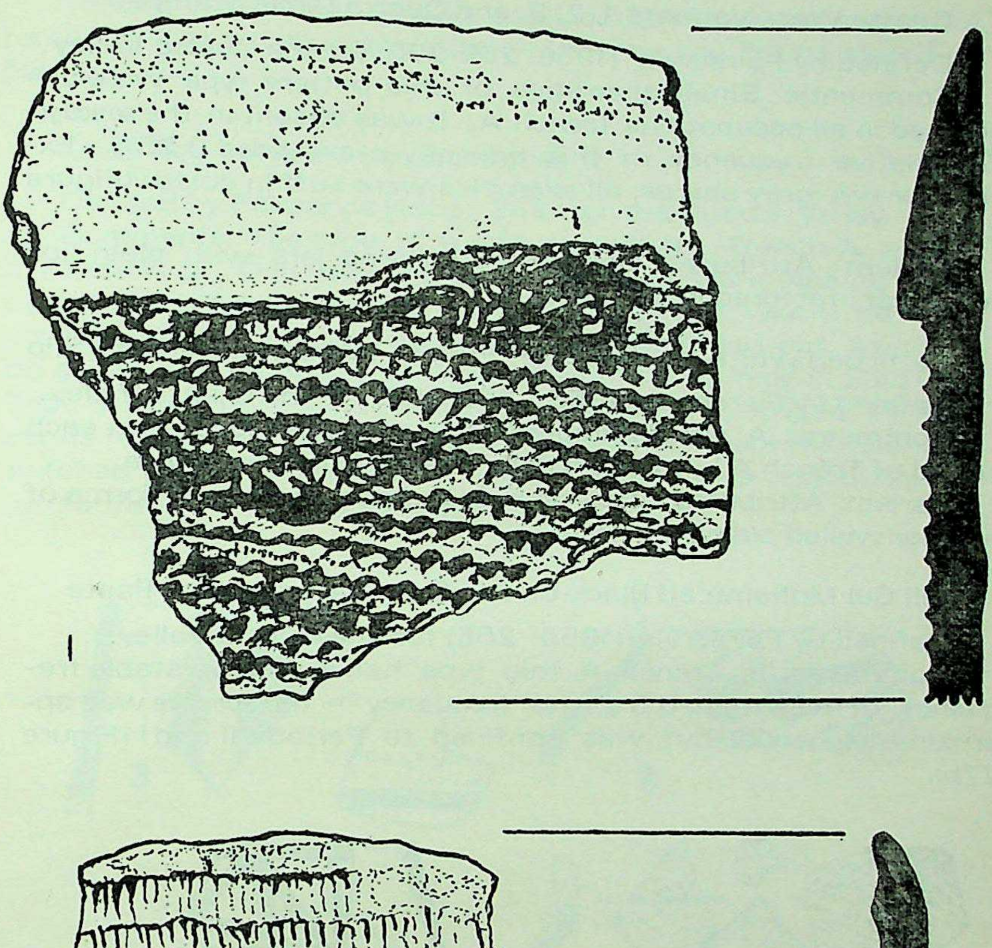


Fig. 25

Variant Attributes: Bowls. Only steep-angular walled vessels with simple flat bases and plain lips (Figure 26) were manufactured in this type. Jars. None. Beaker/goblet/small jar. None.

Special Function or Intrusive Types

Types in this category have a very low relative frequency (less than 0.5%) and sporadic occurrence. All these types have been defined for the Quetta Valley, which makes the absence of such types at Deh Morasi Ghundai very problematical. However, the precise function of these types remains to be defined for that area. Some may have been manufactured from a local paste, while others might not have been. Further analysis and excavation are needed to determine a more precise cultural definition for these types. Until such analysis is forthcoming, their characteristics of occurrence argue for their placement in a separate category.



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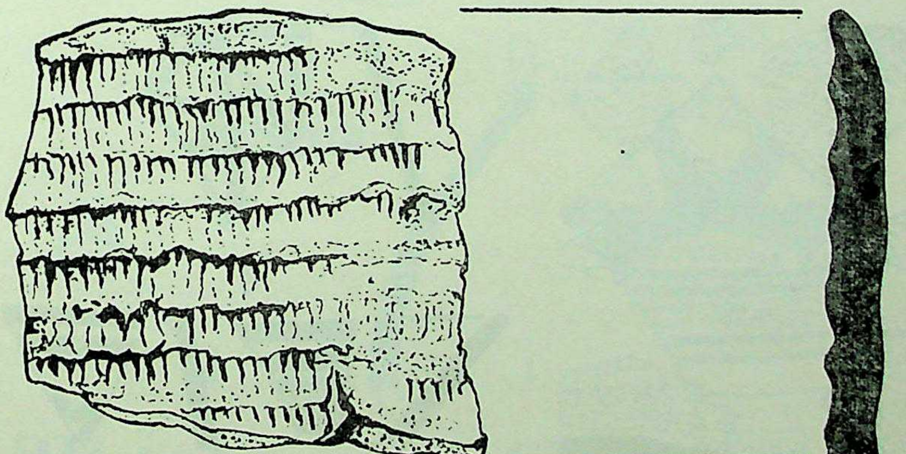

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Fig. 26

Quetta Wet—Variants 1, 2, 3, and Quetta Circle Stamped

Defined by Fairservis (1956: 269-270) for the Quetta Valley.

Comments: Small quantities of this pottery type were uncovered in all occupations Trench A. It was absent in the *sondage*. The relative frequency of this type never exceeded 0.25%. Except for two gray sherds, all examples were buff in colour (Figure 27a).

Variant Attributes: Only short collared jars with plain lips were manufactured in this type.

Kechi Beg White-on-dark Slip—Variant 1 White-on-reddish Slip

Defined by Fairservis (1956: 257-259) for the Quetta Valley.

Comments: A small number of this type were located in each period of Trench A but were totally absent from the *sondage*.

Variant Attributes: This type found only on vessel forms of angular walled plain lip bowls.

Kili Gul Mohammad Black-on-red Slip—Variant 1 Fine Paste

Defined by Fairservis (1956: 256) for the Quetta Valley.

Comments: In Trench A this type had a relative stable frequency of less than 0.5%. Its frequency in the *sondage* was approximately equal but was confined to Periods II and I (Figure 27b).

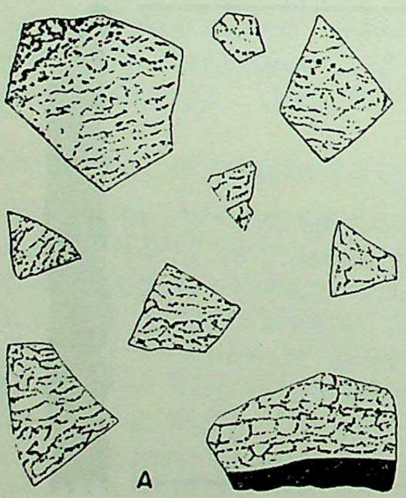


Fig. 27 a

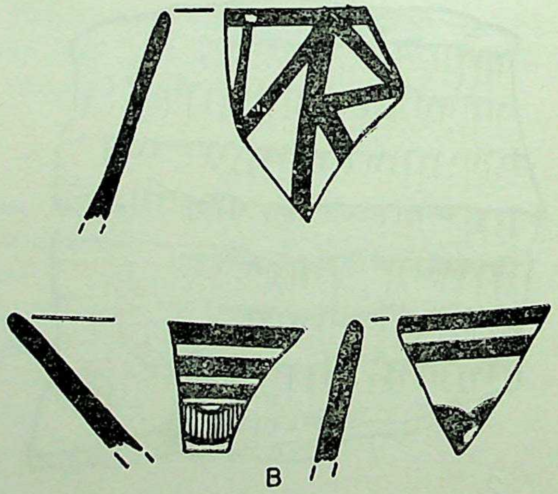


Fig. 27 b

Variant Attributes: Angular walled plain lip bowls and, more rarely, jars, and beaker/goblet/small jar were the forms identified for this type.

Kechi Beg Polychrome (Bichrome)

Defined by Fairservis (1956: 259) for the Quetta Valley.

Comments: The type is found throughout Trench A, except in Phase III D. Only two sherds of this type were located in the *sondage* in Period III. A more correct designation would be a bichrome, since it has only two chromes, black and red, executed on a light buff slip(?) or surface. Motifs for this type at Said Qala Tepe utilized more solid elements than those cataloged by Fairservis for the Quetta Valley. Only occasionally were the fine-lined hatched motifs encountered. Both jar and beaker/goblet/small jar forms are identified (Figure 28a).

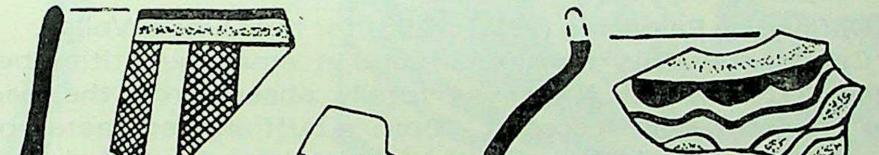


Fig. 28 a

Fiaz Mohammad Grayware—Variant 3 Ren-on gray

Defined by Fairservis (1956: 263) for the Quetta Valley.

Comments: Small quantities of this type were located in all periods represented at Said Qala Tepe. A very shallow angular walled bowl with plain lips and a ring base was the only vessel form identified (Figure 28b).

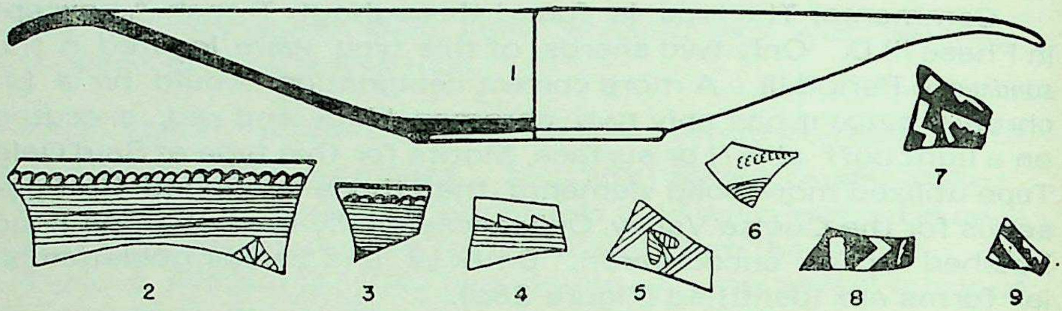


Fig. 28b

Khojak Parallel Striated

Defined by Fairservis (1956 : 268) for the Quetta Valley.

Comments; This type was found in small quantities below Phase III C in Trench A. It was totally absent from the *sondage*. One jar form was recorded. Both a buff and red paste colour variety were noted. No sherds had the "purple slip" described for the type by Fairservis.

Intrusive Types

Included here are only those types that could be identified as definitely originating from a region other than Sarawan.

Amri Polychrome

Defined by Casal (1964: 85) for the site of Amri on the south plains of the Indus River.

Comments: This type was located in Trench A only below Phase III D, in small quantities. Motifs found on these sherds are those identified by Casal (1964: Figs. 65, nos. 221, 230, Fig.6 3, no. 109) as no later than Period I D at Amri. Vessel form identified was: a large "beaker" form with a double, or flanged, rim. (Figure 29 a)

Gumla Polychrome

Defined by Dani (1970-71) for the site of Gumla, Periods II-III, near Dhera Ismail Khan on the Indus River plain (west bank).

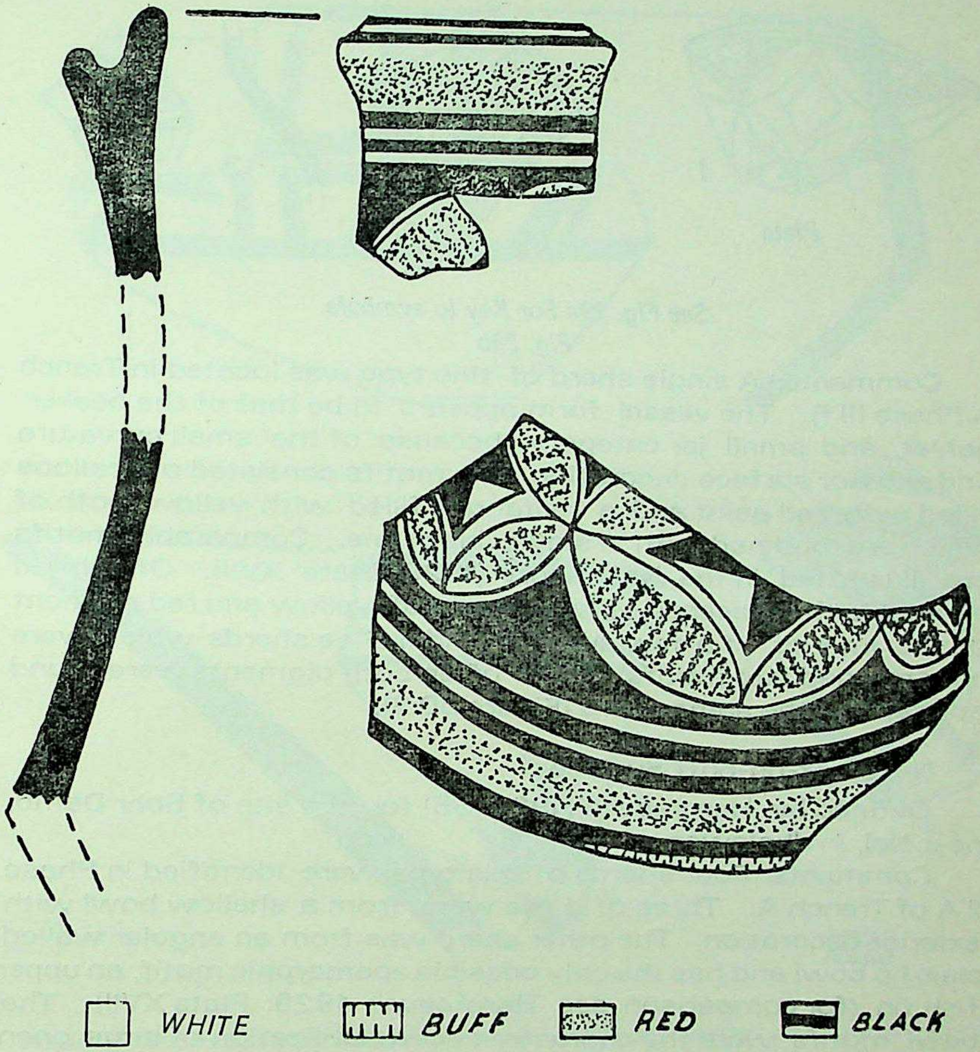
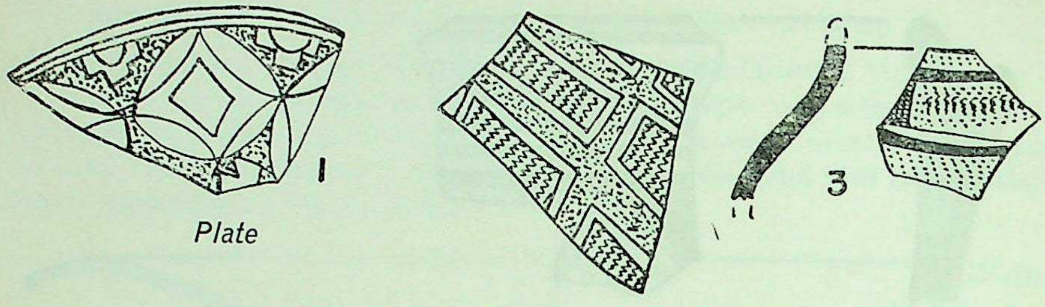


Fig. 29a

Comments: This type was located in Trench A only below Phase III D, in very small quantities. Motifs are similar to those associated with Gumla II-III. Included here is a single example of a pot lid with "Maltese cross" motif. Vessel forms identified were: shouldered jars and a single pot lid (Figure 29 b).

Nal Polychrome

Defined by Hargreaves (1929: 35) for the site of Sohr Damb, near Nal, in Jhalawan.



See Fig, 29a For Key to symbols.
Fig. 29b

Comments: A single sherd of this type was located in Trench A Phase III B. The vessel form appears to be that of the beaker, goblet, and small jar category, because of the small curvature and exterior surface decoration. The motifs consisted of scallops filled with red paint and a rectangle filled with yellow, both of which are outlined with a single black line. Comparable motifs are illustrated in the Nal report (1929: Plate XVII). Of related interest is the presence of large areas of yellow and red pigment on the interior of a few Mian Ghundai Fine sherds which were not arranged into motifs. Quite often both pigments were found adjacent on the same sherd (Figure 30:3).

Nal Black-on-buff Surface

Defined by Hargreaves (1929: 35) for the site of Sohr Damb, near Nal, in Jhalawan.

Comments: Four sherds of this type were identified in Phase II A of Trench A. Three of these were from a shallow bowl with exterior decoration. The other sherd was from an angular walled plain lip bowl and has the only possible zoomorphic motif, an upper fish fin (for comparison see Hargreaves 1929: Plate XVII). The bowl motifs were the characteristic Nal utilization of large open geometrics outlined with a single black line. Although the paste of these sherds is similar (but denser) to that found on indigenous pottery, their very aberrant motifs, combined with the presence of the Nal Polychrome type, argue for their placement within the intrusive ware category for Said Qala Tepe (Figure 30:1,2).

CERAMIC STRATIGRAPHY

As stated previously the main concern of this discussion is with the prehistoric—Bronze Age—periods of occupation at Said Qala Tepe. Therefore, the Modern Period (VI) and Kushano-Sasanina

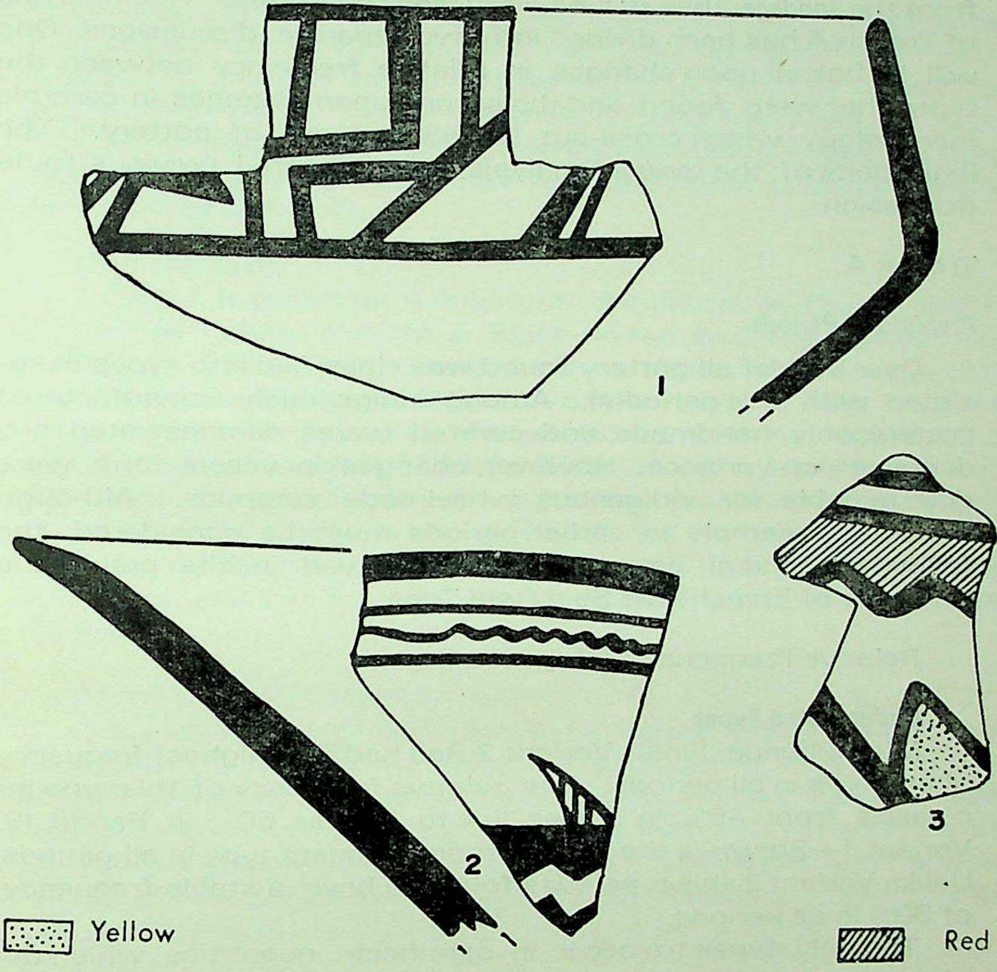


Fig. 30

Period V will not be of concern here. Rather, the primary concern here will be the discussion of only Bronze Age material. More specifically, the ceramic analysis will be utilized as co-operative data for period and phase divisions based upon the natural strata and architecture. By this it is meant that by analyzing the ceramics from these divisions, the cultural continuity and change delineated in the architecture is reflected in the ceramics and therefore supports the period and phase divisions as they have been defined here.

Since the degree of analysis attainable was so greatly different for the ceramics from Trench A, as opposed to those from the *sondage*, they will be discussed separately. The analysis of Trench A has been divided into two separate discussions. One will be based upon changes in relative frequency between the types that were found, and the second upon changes in ceramic morphology which cross-cut individual types of pottery. The limitations of the *sondage* analysis are presented previous to its discussion.

Trench A

Prehistoric Periods

Over 95% of all pottery found was classified into types associated with this period(s). Among indigenously manufactured pottery, only handmade undecorated wares demonstrated any degree of co-variance. However, changes in vessel form were determinable for indigenous wheelmade ceramics. Although the smaller sample in earlier periods must be considered, the following general patterns were observed in the prehistoric ceramics of Trench A at Said Qala Tepe.

Relative Frequency of Types

Undecorated Types

Mian Ghundai Fine—Variant 2 Red had the highest frequency of any type in all periods. The relative frequency of this type increased from 40% in Phase II A to almost 60% in Period IV. Variant 1—Brown is the second most frequent type in all periods. Unlike Variant 2 this type was found to have a stable frequency of 30% in all periods.

The only types to occur in significant quantities which demonstrated a meaningful co-variance were the handmade types of pottery, Said Qala Coarse Ware and Quetta Slate Temper. Said Qala Coarse was the next most frequent type of undecorated ware. Its presence was noted in all periods; however, its relative frequency pattern was unique. A general decrease in the frequency of this type is discernible for the later periods. This decrease may be attributed to increased production of Mian Ghundai Fine—Variant 2 Red in the corresponding periods. Contrary to this pattern is a noticeable decrease (8%) in frequency for this type in Phase III A. In Phase II A the type attained its highest frequency (17%) in Trench A, or 8% more than in Phase III A and 7% more than in III B. Quetta Slate Temper is almost absent from Phase II A (0.5%) but demonstrates a drastic increase in Phase III A (4.0%). In Phase III B this type undergoes a decrease and then maintains a stable frequency of 2.0% for the remaining phases and periods. The co-variance of these two types in Phase III A is interpreted as marking the introduction of Quetta Slate Temper type pottery at Said Qala Tepe and thereby helps differentiate Periods III and II.

Decorated Types

Indigenous decorated wares were dominated by Quetta Black-on-surface types. Variant 2 Black-on-red had the highest frequency (ca. 7.0%) and demonstrated no appreciable change between periods. Variant 1 Black-on-brown had the next highest frequency (ca. 5.0%) and also demonstrated no appreciable change between periods. Quetta Black-on-buff Slip was present in all periods but had a very low frequency (less than 1.0%), which was fairly constant except for Phase III A where some increase was noticeable. Burj Basket-marked was located in all periods but had a very low frequency (less than 0.5%) and no discernible changes.

Special Function or Intrusive Types

Little may be concluded from the analysis about types in this category. At present the basic characteristics of these types were their small quantity, sporadic occurrence, and possible foreign origin, which make them of limited value in analysis of indigenous ceramic stratigraphy. No differential patterning was discernible among these types, and their presence was noted in nearly all periods.

Intrusive Types

The small quantities of the types involved in this category make it difficult to utilize them in an analysis of internal ceramic stratigraphic differences at Said Qala Tepe. These types were limited to those occupational periods earlier than Phase III D. A slight increase in the quantity of these types appears to take place in the earlier phases (III A and II A). However, an accurate evaluation of this increase is not possible at present.

Ceramic Morphology

The following analysis is applicable to only the following types from Trench A: Mian Ghundai Fine—Variants 1 and 2, Said

Qala Coarse Ware, Quetta Slate Temper, and Quetta Black-on-surface—Variants 1 and 2. In regard to relative frequency of the main vessel form categories, they remained constant for all periods and phases at: bowls 70%; jars 20%; and beaker/goblet/small jar 10%. A slight increase in production of jars (from 14.19% to 18.94%) at the expense of bowls (from 76.04% to 70.94%) was observed for later periods. Since vessel and lip forms are inseparable, they will be discussed together under the basic vessel form categories below.

Bowl Form Changes

A major shift from production of angular walled to S-walled bowl forms was discernible in later periods and phases (III D and IV). This change was one of gradually increasing frequencies for S-walled vessels at the expense of angular walled ones. Both vessel forms are predominantly manufactured with plain lips, although an increase in the frequency of rolled lips was noted in later periods. Said Qala Coarse and Quetta Slate Temper types were major exceptions to this vessel form change. These two types were limited almost entirely to angular and steep-angular walled vessel forms. Furthermore, Quetta Slate Temper bowls were almost exclusively made with rolled lip forms. In general. steep-angular walled vessels had an average frequency of 1.5% in all periods and phases and were manufactured with rolled lip forms. The frequency of constricting walled vessels was greatest in Phases III A (1.84%) and II A (2.59%), and were limited to manufacture with plain lip forms. Only infrequently was this vessel form identified in the later occupations. Constricting walled forms and forms with rolled lips were rarely found with decorative motifs.

Jar Form Changes

Collared vessel forms had the highest frequency for all periods. The tall collared variety with rolled lip (which increased from a 60% to 80% frequency) was the prevalent variety of this vessel form. Short collared vessels underwent a decrease in frequency for later periods (from 19% to 5%). This latter variant was mainly manufactured with plain lip forms but had an increasing incidence of rolled lip forms in later phases and periods. Shouldered jar forms with plain lips had a constant relative frequency of 15% for all periods and phases. The incidence of rolled lip forms on this sub-category of jar also increased in later phases and periods. Globular jar vessel forms were only rarely found with both plain and rolled lips.

Beaker/Goblet/Small Jar Form Changes

Straight-constricting walled vessels with plain lips are the dominant forms in Phases II A to III C. In Phase III D they have an equal relative frequency with S-walled vessel forms (also dominated by plain lips). The S-wall forms increase and dominate this category of vessel form in Period IV. Parallel walled forms with thinned lips have their highest frequency in Phases III A (13.64%) and II A (12.16%) and are only rarely found in later periods. The only examples of thickened interior lip form are on parallel walled vessels.

Dish-on-Stand Form Changes

This vessel form was only rarely found in Phases III C to Period IV, and no significant changes were identified. All examples were decorated.

Base-Form Changes

The simple flat base (Variant 1) was the most common base form for all periods. An average relative frequency of 82% per period was maintained by this variant. Convex flat base (Variant 2) forms were present in all periods and had a constant frequency of 7%. The angular expanding base form had progressively decreasing relative frequency (10.04% to 4.27%) between Phase II A to Period IV. Said Qala Coarse type pottery had a high frequency of this base form, indicating a possible correlation of base form and pottery type. The remaining base forms (expanding square, ring, pedestal solid and hollow, and dish-on-stand) were recorded in limited quantities for all periods.

Since this analysis is based upon sherds and not whole vessels, it is difficult to make any definite associations of various base and vessel forms. The range of variation in flat and expanding base varieties could have been utilized for all vessel forms except dish-on stand. However, certain bases appear to be associated with the beaker, goblet, and small jar category. Statistical data cannot be organized to support these observations, but a high frequency of pedestal, ring, expanding square, and a few flat simple and convex base forms (Figure 31), were observed among vessels in this category.

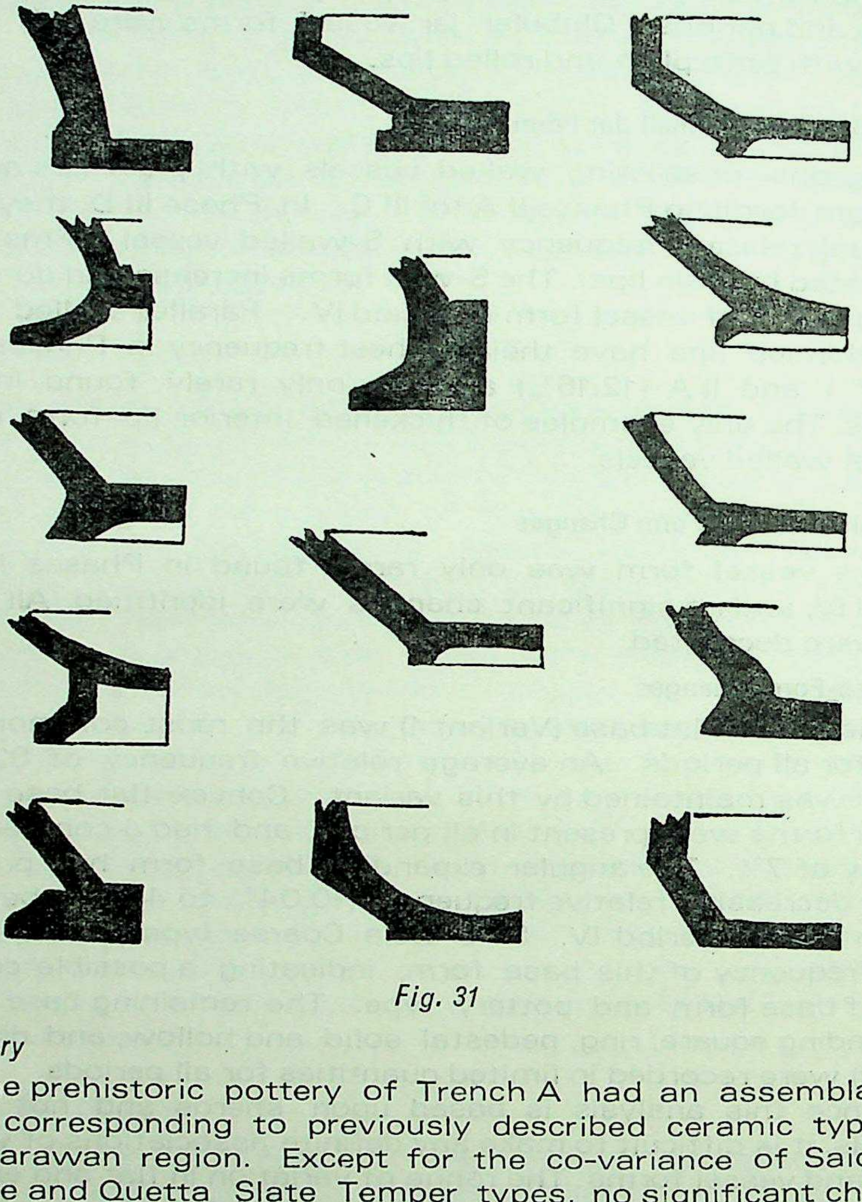


Fig. 31

Summary

The prehistoric pottery of Trench A had an assemblage of types corresponding to previously described ceramic types for the Sarawan region. Except for the co-variance of Said Qala Coarse and Quetta Slate Temper types, no significant changes in relative frequencies of these types for the various periods and phases was detectable. The association of intrusive wares with phases earlier than III D, especially III A and II A, may have stratigraphic significance; however, more extensive excavations are required to verify this. On the other hand, several distinct changes in vessel morphology could be identified through time for indigenous pottery.

Contemporaneity of hand and wheelmade pottery in Trench A is one of the important stratigraphic aspects isolated at Said Qala Tepe. Said Qala Coarse, Quetta Slate Temper, and Burj Basket-marked types were found in varying quantities throughout the sequence. Except for Burj Basket-marked type, handmade pottery was manufactured in significant quantities in all periods. Moreover, in Periods III through IV, they were limited to angular and steep-angular walled bowls. Only in Phase II A was there any proliferation of vessel forms, and this was limited to a minute quantity of Said Qala Coarse sherds. In addition all of these types are characterized by the definite additions of a special tempering substance. The contemporaneity with wheelmade pottery, similarity and limitation of vessel forms, and common tempering characteristics suggest that these types were manufactured for a limited function, perhaps a common kitchen utility ware. Therefore, the mere presence of handmade types of pottery does not indicate any chronological depth, nor are they reflective of the potter's technological sophistication for this area or period (for similar viewpoint see De Cardi 1970: 292).

Sondage

Limitations of Analysis

Almost every *sondage* analysis is plagued by small sample size and the assumption of representativeness. At Said Qala Tepe these basic limitations were compounded by additional problems. A large wall structure in the *sondage* filled half of the excavated area with mud brick and sterile wall fill for 60% of the depth, thereby greatly reducing the sample size (only 6.5% of the total amount of pottery from the present excavations was located in the *sondage*). Furthermore, the representativeness of the sample may have been affected by cultural rules associated with such walls (periodic cleaning and repair, limitation of habitations in the area, variation resulting from interior or exterior wall cultural deposits, etc.).

Another important limitation was that not all prehistoric pottery types located in Trench A were found in the *sondage*. On the other hand, no new types were identified. The small sample size (especially rim sherds) precludes any vessel attribute analysis like that conducted on material from Trench A. In addition the small excavated area precluded definition of period phases as was possible in Trench A. The resultant ceramic stratigraphy is, perforce then, of a much more general nature than that for Trench A but of equal importance in the overall interpretation of the cultural developments at Said Qala Tepe. Again, the Modern and Kushano-Sasanian elements have been deleted from the discussion.

Prehistoric Periods—Bronze Age

Over 95% of all pottery found in the *sondage* belonged to types associated with this period. Among the indigenously manufactured pottery types, only undecorated handmade types demonstrated any degree of co-variance. Such co-variance was vital to the analysis, since it allowed correlations with Trench A to be accomplished. Although the small sample size must be kept in consideration, the following general patterns were observed in the *sondage* prehistoric cermics.

Relative Frequency of Types

Undecorated Types

Mian Ghundai Fine—Variant 2 Red had the highest, and Variant 1 Brown the second highest, relative frequency in all Periods except Period II. During Period II Said Qala Coarse type of pottery had the highest relative frequency (ca. 50+%). However, in Period I Said Qala Coarse is not found in any significant quantity and was totally absent below 5.8 meters. Notable by its complete absence was pottery of the Quetta Slate Temper type.

Decorated Types

Quetta Black-on-surface—Variant 1 and 2 had the highest relative frequencies of decorated types throughout the *sondage*. The two variants occurred with almost equal frequency in all levels. However, at some depths these types had a low sherd count and in a few instances were absent altogether. Due to their persistence in quantity for the lower levels, this situation was attributed to sampling difficulties. Burj Basket-marked has the next highest frequency but was confined to Period I. Quetta Black-on-buff Slip had a very low and varying relative frequency throughout.

Special Function or Intrusive Types

The quantity of these types was drastically reduced over that found in Trench A. The small quantity and sporadic nature of occurrence for the few types identified prevented their meaningful utilization here.

Intrusive Types

A small quantity (8 sherds) of what appeared to be an Amri or Gumla type pottery was located in Period II. This identification is very tenuous, though due to the small physical size of the sherds involved.

Summary

The identification of Period IV—the disturbed prehistoric material—was difficult in the *sondage*. At present it is felt that it was contained within the first 0.6 meters of deposits. This is based mainly upon the presence of Kushano-Sasanian artifacts mixed with the described prehistoric types in about the same relative frequencies as noted in Trench A (for detailed discussion see Shaffer and Hoffman 1971; 1972; n.d.). Only more extensive excavations will allow definite delineation of this period for this tepe area.

Prehistoric occupations represented by Period III can be identified by comparable relative frequencies of major indigenous undecorated wares, Mian Ghundai Fine—Variants 1 and 2, and Said Qala Coarse Ware. Such comparable frequencies can be isolated between levels 0.8 and 2.0 meters in the *sondage*. Judging from wall fall in the *sondage*, these levels would correlate with the ascription of the large wall as being the major feature of Period II. That is to say that by the occupation period (III) represented above the 2.0 meter level, the large wall of Period II had ceased to be a major surface feature in that area.

Period II was identifiable in the *sondage* by a similar drastic increase in the relative frequency of Said Qala Coarse Ware type of pottery that had occurred in Trench A at an equivalent depth of 2 0 to 2.4 meters. Lack of significant quantities for this type below the large wall foundation in the *sondage* argues for association of this type with construction of the wall. Therefore, it provides a physical marker for the lower extent of this period (from 2.0 to 4.75 meters in the *sondage*) at the wall foundation.

The association of Said Qala Coarse Ware type of pottery with Period II, and its absence below the wall, not only provides the limits of that period but also strengthens the identification of a separate period—Period I—for those deposits below the wall.

Period I, then, was characterized by an absence of Said Qala Coarse Ware pottery, and persistence of other major indigenous types. Association of Burj Basket-marked with persisting pottery types in Trench A prevents any definitive significance from being assigned to co-variance of this type with Said Qala Coarse Ware in the *sondage*. However, future excavations might be able to define a significant change in relative frequencies of the two types for Periods I and II.

SUMMARY OF CERAMICS

The prehistoric ceramics located at Said Qala Tepe Periods I to IV were all classifiable (with the exception of one sherd) into types previously defined for this period throughout Baluchistan. Of particular importance was the great similarity in indigenous ceramics found at sites in the Sarawan region—Mundigak, Deh Morasi Ghundai, Damb Sadaat, and Kili Gul Mohammad (the latter two are in the Quetta Valley). This great similarity prompted incorporation of various ceramics into a single terminological set defined by Fairservis (1956) for the Quetta Valley material. Within these type definitions, it was possible to fit not only ceramics from Said Qala Tepe but also Deh Morasi Ghundai within typologies for the Quetta Valley. An examination of the Mundigak pottery indicates that it also falls within these typologies. It is postulated here that pottery from these various sites may be defined as comprising a distinctive stylistic zone—Quetta. Such a postulate is not original, but it does reconfirm, on basis of excavations, the initial definition of such a Quetta cultural phenomenon first proposed by Piggott (1947; 1950: 72-75).

More specifically, what is proposed here is that indigenous ceramics (both decorated and undecorated) from Said Qala Tepe and other sites in Sarawan compose what Binford (1965: 208) defines as a "tradition," that is, a locally manufactured craft demonstrating continuity in "secondary functional variables." Such variability is defined as:

> . . . a by-product of the social context of the manufacture of the vessel or of the social context of the intended use of the item or both. This variation may arise from a traditional way of doing things within a family or larger social unit, or it may serve as a conscious expression of between-group solidarity [Binford 1965: 206].

It is hypothesized that the widespread manufacture of such identifiable types as Quetta Black-on-surface Variants, Mian Ghundai Fine Variants, Said Qala Coarse Ware, Quetta Slate Temper, and Burj Basket-marked served "as a conscious expression of between-group solidarity" for cultures inhabiting the Sarawan region of Baluchistan. Binford himself notes the high degree of usefulness ceramics have in denoting such traditions.

Such traditions are not static concepts as Caldwell (1958: 1) notes:

> . . . other things being equal, changes in material culture through time and space will tend to be regular.

Therefore, within a tradition one can expect to find some degree of change. It is hypothesized here that such internal change is reflected by changes of vessel morphology (as outlined above) and motifs utilized, such as the addition of zoomorphic motifs found in later periods at Deh Morasi Ghundai, Mundigak, and Quetta Valley sites (see next chapter for a detailed discussion of this aspect). Furthermore, the co-variance found among different handmade undecorated types might also be attributed to such internal change.

The exact meaning of the pottery identified as belonging to types assigned to "Special Function or Intrusive Types" is not determinable at present. Whether these ceramics represent some sort of special utilization and/or trade remains to be defined by future excavations. Their identification at various sites in the region does, however, indicate that communication was maintained between regions. A similar conclusion may be reached for "Intrusive Types."

Ceramics from Said Qala Tepe demonstrate some important cultural factors beyond that of being the major type of artifact recovered. First, they indicate existence of a tradition linking the knowns ites of Sarawan into a cultural identity. Secondly, they demonstrate cultural continuity at the site, in that most types are found to persist and changes which do occur are within the realms of indigenous innovation. Lastly, they demonstrate that Said Qala Tepe did have communication with areas outside of Sarawan. With these considerations in mind, it is now appropriate to combine architectural and ceramic data into a summary of the Said Qala Tepe prehistoric sequence.

The Prehistoric Sequence

PERIOD IV

This prehistoric occupation was represented only by redeposited material. Redeposition was indicated by two major factors; (1) the lack of any structural features, and (2) the presence, in quantity, of prehistoric ceramics associated with a later cemetery surface and ceramics. These ceramic types were found to persist into earlier periods and continue indigenous changes which were determinable for those earlier periods. Therefore, even though the strata of this period are disturbed, there is a good possibility that it remains in correct stratigraphic position vis-a-vis the earlier periods.

PERIOD III

Period III was divided into four phases (A to D) utilizing architectural structures and features. Phases were determinable upon basis of structure superimposition as well as changes in method of wall construction. Continuity was demonstrated by continued utilization of similar sized mud bricks and the type of habitation unit constructed. Ceramically the period was characterized by vessel form changes in bowl and beaker/goblet/small jar categories. In addition Quetta Slate Temper type of pottery was introduced and Said Qala Coarse Ware underwent a reduction in its relative frequency. Contrastingly Mian Ghundai Plain—Variant 2 Red underwent an increase in relative frequency between III A and III D. Quetta Black-on-surface Variants were the major decorated wares as they were in all periods.

PERIOD II

Period II was distinguishable by a change in type of habitation structure constructed. Earlier it was predominantly a single room rectangular structure. In Period II it was a multiroom rectangular structure and large trapezoidal single room structures. Another important feature of this period was the large wall located in the *sondage*.

Except for Quetta Slate Temper all major indigenous types of prehistoric pottery persisted. In some cases their relative frequency underwent a decrease, but since much of this period is known only from the *sondage*, this is attributed to sampling. The major ceramic characteristic of this period was the introduction of Ṣaid Qala Coarse Ware. This type's highest relative frequency was recorded during this period, and its absence in deposits below the large wall in the *sondage* helps define that period's lower stratigraphic limits.

PERIOD I

Period I was identified only in the *sondage*. At present it consists merely of those deposits located below the large wall architecture foundation associated with Period II. Little may be said about architecture for this period beyond stating that there continued utilization of mud bricks and wall construction methods described for Period II and Phases III A-B. All major ceramic types previously described, excepting Said Qala Coarse Ware, were found to persist in this period with similar relative frequencies. However, Burj Basket-marked reaches its highest relative frequency during this period. The significance of this type's isolation and high frequency for Period I in the *sondage* remains to be determined. At present it might signify the type's introduction or, more likely, a sampling bias. Period I is the earliest complex identified at Said Qala Tepe. It is now necessary to relate this sequence to those of other sites in Baluchistan in an attempt to reach an understanding of cultural developments in Baluchistan.

CHAPTER IV

CHRONOLOGY AND COMPARISONS

Introduction

In relating the Said Qala Tepe sequence to those of adjacent sites and other regions, it is necessary to stress at the beginning that the primary means of establishing such relationships is by ceramic comparisons. This reliance upon ceramics results from several factors. First, there is the archaeological assumption that ceramics are the most sensitive and reliable indicators of cultural dynamics. A second and more pragmatic factor is that most excavations in Baluchistan to date have been limited to *sondages* and, therefore, have provided little else for comparison. This does not mean, however, that the following discussion will be limited entirely to ceramics. Wherever possible additional cultural material has been utilized, especially in the immediate Said Qala Tepe region.

The importance of making such comparative studies is two-fold. First, it allows for relative placement of new data from Said Qala Tepe with previously excavated sites. Second, and most importantly, establishment of a comparative stratigraphy and absolute chronology for Baluchistan is the basis for an understanding and evaluation of the cultural processes at work. It is with these objectives that the following comparisons, and resultant chronology, is presented for established sequences of Baluchistan, Seistan, and the Indus Valley.

Comparative Stratigraphies

BALUCHISTAN

SARAWAN REGION

Deh Morasi Ghundai

A high degree of similarity is expected between this site and that of Said Qala Tepe, due to their close proximity in space and time. Indeed such similarity was previously noted in the ceramic discussion. Both sites had the same indigenous pottery types manufactured at them, although some important differences within these types exist which allow for a rather precise comparison to be proposed.

Dupree (1963: 78), on the basis of a single pottery type, made an initial correlation between the two sites:

> The Said Qala Coarse Ware ties the top levels of Said Qala to the bottom levels of Deh Morasi [1963: 78].

The ceramic analysis of the present excavations substantiates Dupree's initial observations. This correlation, because of its importance, deserves additional discussion. Attention should be drawn to the somewhat skewed ceramic stratigraphy presented by the *sondage* at Said Qala Tepe. In this instance, if the *sondage* alone is considered, an obvious co-variance exists between Said Qala Coarse Ware and Burji Basket-marked. However, in Trench A, Burj Basket-marked was found in association with Said Qala Coarse Ware. In addition there was also the total absence of Quetta Slate Temper pottery in the *sondage*, while it was a significant undecorated type in Trench A. Therefore, while Dupree's initial correlation is accepted, it is done so with additional comparisons not based upon presence or absence of a single pottery type.

A more acceptable comparison may be constructed utilizing motifs and vessel forms from the two sites. At Deh Morasi Ghundai II A, Quetta Black-on-surface Variants were identified (Dupree 1963: 115-116) as being decorated with "Kulli style" animal motifs. The "Balloon style" goblet, so characteristic of Mundigak IV, was identified in Morasi II B. Except for the Nal intrusive sherd no zoomorphic motifs of any style were found at Said Qala Tepe. Also totally absent from Said Qala Tepe were "balloon style" goblets. In addition a classic Zhob Valley figurine (1963:92-93) was found in Morasi II A. At Mundigak such figurines were associated mainly with Period IV (Dales 1965: 270). This "classic style Zhob female figurine" was not found at Said Qala Tepe (Shaffer 1971a and b). The presence of "Kulli style" zoomorphic motifs, "balloon style" goblets, and classic Zhob Valley figurines at Deh Morasi Ghundai II, and their total absence from any prehistoric period at Said Qala Tepe, argue for a non-contemporaneity between Morasi II and Said Qala I-IV. The stratigraphic superimposition of Morasi II over Morasi I and the similarity between

Morasi II and Mundigak IV indicate that Morasi II is later than any of the Said Qala Tepe periods, thereby reinforcing Dupree's initial observation concerning possible contemporaneity between Morasi I and the upper levels at Said Qala Tepe (Period IV). A similar comparison has been proposed by Dales (1965, 1973) between Morasi II and Mundigak IV, which helps substantiate the conclusions reached here.

Mundlgak

The sequence at Mundigak is the most extensive in this area. In his ceramic analysis Casal (1961) did not attempt to identify specific ceramic typologies and concentrated upon more general stylistic changes. An examination of pottery from Mundigak by the author indicated that types recovered there fit into those discussed for the Quetta Valley, Deh Morasi Ghundai, and Said Qala Tepe. This was especially true for indigenous types—Quetta Black-on-surface Variants and Mian Ghundai Fine Variants–with the highest relative frequencies. It is to these types that the following discussion is mainly addressed.

Casal defined seven major periods (I-VII) at Mundigak. The major prehistoric periods (I-IV) were divided into phases (I $_{1-5}$; II $_{1-3}$; III $_{16}$; IV $_{1-3}$) based upon architectural re-building. The most extensive period, material culture wise, was Period IV, the urban period. This was the first urban centre identified and excavated for this region and therefore has become a major reference point.

Period IV was distinguished by the construction of monumental buildings (designated as a "palace" and "temple" by Casal), and two large enclosing walls with bastions (defensive walls?). The most significant ceramic changes were the introduction of "Kulli style" zoomorphic motifs and "balloon style" goblets into the potter's repertoire. As stated previously such motifs and vessel forms were totally absent from the prehistoric occupations at Said Qala Tepe. Comparsions must be sought in the earlier periods at Mundigak (I-III).

The distinctions between Periods I-III are not as pronounced as Casal originally states (see Shaffer n.d.). Likewise there is no firm reason to suppose that each period represents a significantly long period of time. In fact there are as many definable similarities between these intial periods as differences. Given these considerations the following correlations are proposed. Ceramically Said Qala Tepe Periods I-IV are comparable to Mundigak III $_5$-IV $_1$.

There is no reason to suppose that any occupation at Said Qala Tepe was earlier than Mundigak III_5, although this might be revised if a larger sample were available from either site. Period IV_1 has been included because of the great similarity which exists between the pottery of III_{5-6} and IV_1, and, given the present data, it is superficial to make sharp distinctions. The motif repertoire of the Said Qala Tepe pottery corresponds most closely with that of Mundigak III_{5-6}. However, the presence of the more "linear" style of Quetta Black-on-buff Slip Variant 2 indicates a possible correlation with early Mundigak IV_1. Likewise, the vessel form changes to S-walled bowls/beaker/goblet small jars at Said Qala Tepe correspond to similar changes in Mundigak III_6-IV_1. Casal (1961 : 134-53) has also identified Amri Bichrome and Nal polychrome pottery in Mundigak III, and illustrates a sherd very similar to Faiz Muhammad style pottery. On the other hand, Amri, Fiaz Muhammad, and Quetta Wet types of potteries were identified in Mundigak IV_{1-3} contexts as well. Considering these factors, a possible correlation with Mundigak IV_1 must be entertained.

Some additional comparative statements may be made about the material culture at the two sites. Mundigak IV_1 and Morasi II were characterized by the presence of classic Zhob Valley style female figurines. The female figurines found at Said Qala Tepe were unlike any found at Mundigak for any period. Indeed, parallel figurines have been found only at Gumla (Periods II) and Jalilpur (Period II) in the Indus Valley. The steatite compartmented seals with geometric motifs at Said Qala Tepe are similar to those at Mundigak. Likewise, there are similarities in the bronze artifacts found at Said Qala Tepe and Mundigak III. The difficulties of using metal artifacts for making cross-site comparisons has been noted by Lamberg-Karlovsky (1967: 155). However, their occurrence, in light of the ceramic data, should be mentioned. Mouflon-headed and twisted-shaft style of pins have been recorded for Mundigak II-III (Casal 1961: 247-50, Fig. 139 nos. 4, 5, 7) and Said Qala Tepe (Shaffer 1971a: various pages, Fig. 43-4). Similar points and sickle blades have been recorded for both sites (Casal 1961: 247-50, Fig nos. 6, 8; Shaffer 1971a: various pages, Fig. 45-6). The limited excavations at Said Qala Tepe failed to produce the wide variety of bronze artifacts which were found in Mundigak III_6-IV.

Quetta Valley Sites

The preliminary sequence established by Fairservis (1956) has been an issue of much debate (Dales 1965: 260-1; Mughal 1970: 254-59) which need not concern the issues addressed here (for discussion see Shaffer n.d.). That ceramic similarities exist between Said Qala Tepe and the Quetta Valley sites is apparent from the analytical discussion. The occurrence of zoomorphic motifs in the last prehistoric occupation at Damb Sadaat (Periods II-III) would argue for it being later than Said Qala Tepe IV and more comparable to Mundigak IV. Except for the zoomorphic motifs, the other motifs and vessel forms recorded for Kili Gul Mohammad IV – Damb Sadaat III are very similar to those of Said Qala Tepe I-IV. A tentative comparison is made here between Damb Sadaat I because it is during this occupation that the typical Quetta Black-on-buff Slip and Surface Variants are found in quantity.

NORTHERN SARAWAN (ZHOB VALLEY) AND DUKI REGIONS

The Zhob Valley and Duki Regions are treated here as a unit, because of the limited archaeological research conducted in both regions and the tendency of previous research to combine the two. Fairservis (1959) also conducted archaeological investigation in these regions. His work consisted mainly of survey and limited excavation at Sur Jangal along with re-examinations of the work at Rana Ghundai (Ross 1946) and Dabar-Kot (Stein 1929). Upon these efforts, Fairservis established a three period sequence—Rana Ghundai I/Sur Jangal I to Rana Ghundai III/Sur Jangal III.

Similar to the Quetta Valley, Fairservis (1959: 363) based this sequence upon ceramic similarities. Such similarities were concerned only with the presence of comparable types and not attributes within the types themselves—motifs, vessel forms, etc. Utilizing such methodology Fairservis compared Rana Ghundai II/Sur Jangal II with Kili Gul Mohammad IV—Damb Sadaat I. This comparison has difficulties because zoomorphic (primarily bovine) motifs are prominent on types associated with Rana Ghundai II/Sur Jangal II. A more consistent equation here would be with Damb Sadaat II-III or, at earliest, a terminal Damb Sadaat I. The later periods at Said Qala Tepe (III-IV) might therefore be comparableto Rana Ghundai I/Sur Jangal I. Dupree had previously suggested such a comparison:

> The few unique sherds of coarse ware that underlay the Morasi II levels resemble the earlier wares of Said Qala and possibly Rana Ghundai I [Dupree 1963: 115].

The limited nature of archaeological research in these regions precludes any extensive synchronizations being made.

JHALAWAN REGION

Anjira-Siah

The Jhalawan Region has been recognized as an area of extreme archaeological importance since the early work conducted by Hargreaves (1929) and Stein (1931). However, DeCardi's (1951; 1959; 1964; 1965) work at Anjira-Siah is the only sequence available based upon controlled excavations.

At Anjira-Siah DeCardi (1965: 100-103) defined five (I-V) periods of prehistoric occupation. Since excavations were of a *sondage* type, we are limited to primarily ceramic correlations. The earliest periods (I-II) had pottery very similar to Kili Gul Mohammad (1965: 93, 116-120) and Burj Basket-marked (1965: 120-122) types defined by Fairservis (1956) for the Quetta Valley. More importantly, located in these initial periods were "intrusive" sherds of types defined for the Sarawan Region (DeCardi 1965: 176-180): Quetta Black-on-surface, Quetta Wet Ware, and Fiaz Mohammad Grayware.

Period III (1965: 102, 113-115) had a continuation of the Kili Gul Mohammad Wares, Burj Basket-marked, and Quetta Wet Wares. In addition, types related to Amri-Kechi Beg and Nal-Nundara bichrome wares were identified. Quetta Slate Temper type pottery was also located in this period. The Amri type bichrome pottery (1965: 136-138) seems comparable to that produced during Period ID at Amri (Casal 1964). However, due to a lack of specific published data on these sherds, this identification is tentative. Nal type pottery was found in later phases of Period III and continued into Period IV, where they became the dominant type decorated ware. The Nal polychrome type pottery, though rare, was present. This scarcity of polychrome, DeCardi (1965: 153) attributes to the non-cemetery nature of the site. The later phase of Period III (d) and Period IV have increasing utilization of zoomorphic motifs.

DeCardi (1965: 111-115; 1970: 257) compared early Period III—phases a and b—with Kili Gul Mohammad IV—Damb Sadaat I of the Quetta Valley sequence. This correlation is consistent with that framework presented here. A possibility exists that this correlation might be extended to include Period II due to the presence of intrusive wares from Sarawan. The presence of zoomorphic motifs in increasing quantity from Period III—phases c and d—and Period IV argue for a correlation with the later Damb Sadaat II-III period. Acceptance of these correlations indicate that Anjira I-III b might be compared to Said Qala Tepe I-IV.

One additional important aspect of the ceramics at Anjira-Siah must be noted, although it is somewhat tangential to the present discussion. In Period IV DeCardi (1965: 166-173) identified and described a black coloured ware—Anjira Ware. The importance of this type is that it provides a possible link with Kulli type sites. A similar ware was described at the Kulli type site by Stein (1931: Plate XI, XXV) in association with Kulli style ceramics. The location of Anjira Ware in Period IV at Anjira, and at Kulli sites, provides a possible spatial or chronological (or both) link between the cultural complexes traditionally referred to as Nal and Kulli (1965: 167).

Nal Cemetery

The chronological position of Nal material has not been as secure as others due to Hargreaves' (1929) misinterpretations. Dales re-examined the material in light of recent excavations and made this interpretation of the Nal material's chronological position:

> It has been assumed (e. g., Piggott 1950; Gordon 1958) that the cemetery (Area A) was later than the occupational levels excavated on the upper parts of the site (especially Areas D and F). Present comparative evidence points, however, to the opposite sequence. Nal cemetery-like pottery shapes appear as early as Mundigak III_1 (Casal 1961: Fig. 53, nos. 55-56). Polychrome decoration, similar to that from the Nal cemetery, also appears in Mundigak III. This, together with the close relationship between the Nal polychrome and Amri Bichrome traditions, places the Nal cemetery in our Phase D. Further confirmation is offered by the similarity between the gray-ware bowls decorated with white painted loops found with the Nal polychrome and the Kechi Beg White-on-dark Slip ware of the Quetta area (Fairservis 1956 : 257) that is also assigned to this phase. At Anjira, Nal-like polychrome appears late in Period III and continues through IV Dales 1965: 265].

The presence of Nal polychrome and Black-an-buff types in Said Qala Tepe III and the ceramic similarities of that period with

Mundigak III_{5-6} are consistent with Dales' correlations. In conclusion, it would appear that the Nal Cemetery material is at least partially comparable with the Said Qala Tepe sequence.

Kulli Sites

Until recently, sites identifiable as Kulli were known only from Stein's (1931) early excavations, whose stratigraphy was unclear. More recently, Fairservis (1961 b; 1967; 1971; 189-205) has surveyed several sites which appear classifiable as Kulli, and conducted limited excavations at one—Niai Buthi. At Nindowari, Casal (1966) has undertaken more extensive excavations, but these have not been reported on in full. Pending the publication of the Nindowari material, comparisons must be limited to ceramics.

Ceramics are at present the most distinctive characteristic of Kulli sites. The tethered "bug-eyed" bull with hatched body executed in a paneled motif has been recognized as one of the most distinctive of Baluchistan's potteries (Piggott 1950: 99). The bull motif is found incorporated in other distinctive Baluchistan pottery types: Quetta. Black-on-surface Variants of Damb Sadaat II-III, Morasi II, and Mundigak IV. The presence of zoomorphic motifs in Kulli style ceramics, and its apparent associations with known later cultural assemblages, argues for placing these sites all in a somewhat post-Said Qala Tepe synchronization. A possible correlation between the late Nal assemblage of Anjira and Kulli exists if DeCardi is correct concerning the identification of Anjira Ware in a Kulli context. Kulli assemblages have long been considered contemporary with Harappan (Dales 1965: 270-271; Casal 1966: 20; Fairservis 1971: 215).

MEKRAN REGION

Bampur

The only available sequence in this region based upon excavations is in the Bampur Valley (DeCardi 1967; 1968; 1970) of Iranian Baluchistan. In constructing a stratigraphy for the Valley, DeCardi (1970: 257) distinguished six major periods (I-VI). Periods I-IV were interpreted as representing an indigenous development, while Periods V-VI were characterized as representing an "alien culture." The first periods (I-II) are "inferred" by DeCardi to be contemporary with Mundigak III. A close examination revealed few close comparisons between the two assemblages beyond a stylistic similarity related to utilization of geometric motifs (1970: 260). No true Quetta type designs, bichromes or polychromes, were located at Bampur (1970: 260). However, midway through Period III, phase 3 (1970: 284) DeCardi (1970: 261, 270-276) identifies several ceramic stylistic parallels between Bampur and Mundigak IV, including a ceramic mousetrap.

An examination of the published data did reveal some motif similarities in Bampur I to early III (1970: Fig. 17, nos. 15, Fig. 18, nos, 22, 25, 35, 39, Fig. 22, nos. 160, 164, 163, 142, 130) and those of Quetta Black-on-surface Variants found at Said Qala Tepe. Moreover, Bampur III witnessed similar vessel form changes that were recorded for Said Qala Tepe IIA-IV--angular walled to S-walled bowls and parallel-constricting walled to S-walled beaker, goblet, and small jars. Such comparisons are limited with the presence of zoomorphic motifs and the distinctive large geometric hatched motifs which distinguish Bampur I-IV pottery. These latter facts make synchronization of the Bampur and Said Qala Tepe sequences, difficult. This is compounded by the fact that Period I was represented by only a "handful" of sherds. Pending further excavations the following correlations are proposed here between Bampur and Said Qala.

Until more than a "handful" of sherds are known from Bampur I, it is proposed that Bampur I and II be treated as a single until —Bampur I-III. Utilizing motif and vessel form similarities, a comparison of Bampur I-III, phase 1 and 2, with the Said Qala Tepe sequence can be made. Zoomorphic motifs of Bampur pottery force the placing of more than a few reservations upon this correlation. However, some characteristics noted for the later period(s) at Bampur provide supporting evidence.

The many ceramic parallels which exist between Bampur III, phase 3 to IV and Mundigak IV have been presented by DeCardi (1970: 270-276) and accepted here. These parallels help substantiate correlations of the earlier periods. Bampur V-VI, the "alien culture," is interpreted as a period(s) of increasing east-west contact in the region. This is evidenced by parallels with mature and late Harappan elements identified at Amri III C (1970: 269). In addition, some similarities exist with the late Kulli style ceramics for these periods (1970: 268). Not noted by DeDardi, but illustrated in the report (1970: Fig. 34, nos. 222, Fig. 38, nos. 366, 367), are fish motifs reminiscent of late Nal style for Period V. Presence of carved stone bowls with a basket motif is important because they are associated with finds at Kish, Susa II, Failaka Island, Tepe Yahya IV, and lower levels at Mohenjo-daro

(1970: 268). In addition, strong similarities are noted (1970: 268-269) between pottery of Period VI and the Umm an-Nar culture of Oman and Bahrain (Thorvildsen 1963; Bibby 1967, 1969: 278-281, 200-301). The Umm an-Nar culture is generally ascribed to the early second millennium. Considering these correlations for later Bampur periods, the comparison presented here for earlier periods seems within boundaries of the present study.

INDUS PLAIN

AMRI

The most explicit association with the Indus Plain is for the Amri sequence (Casal 1964). Several intrusive sherds (primarily from one vessel) located at Said Qala Tepe can be specifically identified with this sequence. The Amri intrusive sherds at Said Qala Tepe all belong to the late Amrian Period I.

Period I was divided into four phases, A-D (Casal 1964: 84-85, 6, 11-12). Phases A and B are not very distinct, and Casal (1964: 84, 5) suggested that they be lumped together. These phases are compared by Casal (1964: 14) to Mundigak II and early phases of Mundigak III (1964 : 14) upon corresponding occurrences of Togau C type pottery. Phases C and D represent a continuation and intensification of ceramic attributes identified for the earlier phases. However, phase D is distinguished by a sophisticated utilization of zoomorphic motifs (1964: 85, Fig. 37). Phase C is characterized by the highest frequency of paneled sigma motifs which were identified on intrusive sherds at Said Qala Tepe, and also occur at Gumla II-III. Also located on intrusive sherds at Said Qala Tepe were large geometric flowers (?), or intersecting circles, with a black and white diamond in the centre. Similar motif combinations were identified only for phase D at Amri (1964: Fig. 63, nos. 209, 209a). This motif was identified on a large jar-like vessel as well as a vessel lid(?) at Said Qala Tepe. Vessellids are first reported from phase D where they occur with similar motifs (1964: Fig. 65, nos. 230) to one found at Said Qala Tepe. The "fish scale" pattern found on jars of Quetta Black-on-surface Variants also appears to be most frequent during phase D (1964: Fig. 64, nos. 214). On the basis of this somewhat inconsistent data, a correlation is presented here between Said Qala Tape I-IV andlate Amri IC and/or early Amri ID. Such a conclusion is not too dissimilar from that of Casal's (1964: 15), which placed Amri Period I contemporary with Mundigak III, Anjira III, and Kili Gul Mohammad IV. Acceptance of the Said Qala Tepe correlation might result a slight revision placing the later aspects of Period ID at Amri in comparison with Mundigak IV, Damb Sadaat II-III, and late Anjira III-IV.

The latter Period II is characterized by Casal (1964: 85-86, 7, 11-12) as representing a blending of Amri ceramic elements with those usually associated with Harappan ceramics. In this context, it is interesting to note the presence in Period IIB of a bovine motif similar to the Kulli style (1964: Fig. 72, nos. 301). Period II, as well as the mature Harappan Period III at Amri, has few parallels with the Said Qala material.

Casal (1964: 14), in relating Amri to the other important site of the Indus Plain—Kot Diji (Khan 1965), came to the following conclusions:

> The Kot Dijian culture seems accordingly to be contemporaneous with Period I at least partially, and Period II of Amri. It looks as though Amri and Kot Diji had a common background of a local culture. But Amri being much more diversified must have had a closer contact with Baluchistan in which Kot Diji did not take part, probably for geographic reasons [1964: 14].

These comments by Casal are the only link between Said Qala and Kot Diji within the boundaries of the present data.

GUMLA

At Gumla (Dani 1970-71) some pronounced but limited similarities with the Said Qala Tepe material can be found in Period II, and, to a lesser extent, in Period III. A brown-on-white type of pottery was found in Period II, with geometric decorations very similar to that of Quetta Black-on-buff Slip at Mundigak and Said Qala Tepe. Also present were black-on-red on buff bichromes, and black-on-red on white polychromes, executed in geometric motifs. The bichromes are similar to some of those found at Said Qala Tepe, which are classified as Kechi Beg type pottery. Here, the similarity is most striking on those examples which used solid geometric type motifs. The polychromes resemble very closely those found at Said Qala Tepe, and a few examples of Quetta Wet type pottery were also found at Gumla. Moreover, the two types of female figurines found at Gumla II are duplicated at Said Qala Tepe. One type had the lower torso stylized as a trapizodial cone/pyramid. The other was a seated figure with bent legs extending out in front. Although less pronounced, some similarity with Period III polychrome pottery must be noted. This similarity is to be found only among the geometric motifs. During Period III, zoomorphic motifs are fuond, the brown-on-white pottery disappears, and the style of female figurines changes significantly. Therefore, comparisons with this later period are very tentative.

JALILPUR

Jalilpur (Mughal 1972, 1974) is a site only 46 miles from Harappa which had a major Kot Dijian type occupation (Period II). The pottery resembles that of Gumla III, but has little in common with the bichomes and polychromes found at Said Qala Tepe. However, a few examples of Quetta Wet type pottery were found, and, more importantly, seated female figurines similar to those at Said Qala Tepe. It is interesting to note that several examples of lapis lazuli beads were also found.

SEISTAN

GARDAN REG SITES

The early surveys of this region (Stein 1928; 1937) resulted in little more than the location of prehistoric sites and illustration of ceramic surface collections. It has only been in recent years that detailed excavations were undertaken in this barren area in order to construct a sequential prehistory for the region (Tosi 1969; Dales 1972). The initial modern work was conducted by DeCardi (1950) and Fairservis (1961a) in the form of survey during the early 1950s. Fairservis (1961a: 97-98) located several small sites, mostly in the southern delta, as well as a few larger ones, such as Shahr-i Sokhta and Gardan Reg. Although limited to surface collections, Fairservis was able to note that the material collected demonstrated a marked homogeneity from which he speculated that prehistoric occupation might have been short and reached its maximum very rapidly. Another interesting observation was the location of quantities of cuprous slag at the sites, indicating a possible local source for the ore.

In attempting to establish a relative chronology for the area, Fairservis (1961a: 98, Fig. 38) identified several ceramic parallels between the surface collections and Damb Sadaat II-III, as well as the presence of Fiaz Mohammad Black-on-gray and Quetta

Wet Wares. Unfortunately, Dales' recent excavations in this area failed to locate any significant prehistoric occupations. Given this limited data, it would be premature to make any comparative statements concerning Said Qala Tepe.

SHAHR-I SOKHTA

Shahr-i Sokhta is one of the largest and most important sites in the immediate region. At present, only preliminary reports are available (e.g. Tosi 1969), but the results indicate that this was a major centre for the Seistan region.

The ceramic analysis at the site is particularly promising because of the framework adopted by Tosi (1969: 307-324). Unfortunately, the analysis has not been completely published; so correlations made here are tentative. In the preliminary report Period II and III ceramics were of primary concern, due to the small sampling of Period I. Many geometric motif combinations illustrated for Period I (1969: Fig. 33-38) are identical to those found on Quetta Black-on-surface Variants and Slip types at Said Qala Tepe as were several Period II and III motif combinations (1969: Fig. 23, 25, 26, 31). An identical vessel to Fig. 31C (Tosi 1969) was found at Said Qala Tepe. The preliminary analysis (1969: 324-325, 357) indicated the major difference between Period I and II-III ceramics was utilization of a fugitive type paint on earlier ceramics, and not the motifs. Besides the black-on-buff ware in Period I, there was a gray ware with a relative frequency of 5.0%, having red-on-gray decorations. In later periods the decoration on this gray ware is black-on-gray (1969: 311-312). The ware description is similar to that given by Fairservis for Fiaz Mohammad Gray-ware. Also present in Period I is a bichrome ware, which Tosi (1969: 325) compares to Kech Beg Ware of Damb Sadaat I. The published illustrations (1969: Fig. 28, nos. a, b, Fig. 33, nos. d and f) indicate that zoomorphic motifs might have been more frequent for Periods II-III, but not absent from Period I (1969: Fig. 38, nos. j). A vessel form change was also found to separate Period I from II-III. That is, the pear-shaped beaker, globular jar, and small biconical high-necked jar forms dominant in later periods were absent from Period I. These vessel forms are the same as the S-walled category of beaker/goblet/small jars at Said Qala Tepe. Additional comparative factors were utilization of similar sized mud bricks and wall trenches in wall construction (1969: 287-292).

Tosi (1969: 325) correlated Shahr-i Sokhta I with Damb Sadaat I because of the Kech Beg type bichrome, and, thereby, Shahr-i Sokhta II-III with Damb Sadaat II-III. Additional comparisons (1969: 381) were made between Sahr-i Sokhta I and Mundigak III and Namazga III. In correlating the Shahr-i Sokhta sequence to that at Said Qala Tepe, the following characteristics were taken into consideration: (1) S-walled beaker, goblet, and small jar become dominant only in later periods (IIID and IVA) at Said Qala Tepe. (2) The infrequent, but not absent, zoomorphic motifs inShahr-i Sokhta I were totally absent from Said Qala Tepe. (3) Wall trenches were an architectural trait only in Said Qala Tepe IIIC-D. Shahr-iSokhta I, therefore, is comparable to Said Qala Tepe I-IV. However, limited parallels may also be found with Shahr-i Sokhta II material, and a possible comparsion must be entertained.

SOUTHEASTERN ZAGROS

TEPE YAHYA

Tepe Yahya was the first pre- and protohistoric site to receive extensive excavations in this area, and the sequence established there is important for providing a western perspective on the Baluchistan material. Lamberg-Karlovsky (1970; 1971; 1972a; 1972b; and Tosi 1973) has defined six major periods for the site, ranging from Partho-Sasanian (300 A.D.) to Neolithic (5000 B.C.). However, only two periods (IVC and VA) are relevant to this discussion.

At best there are only a few limited parallels which can be drawn between the Yahya IVC and VA material and that of Said Qala Tepe/Mundigak. During Period VA new ceramic styles developed, among which were a red/black-on-grayware and a black-on/cream/red slipped pottery. These ceramics had some similarities to those of Bampur I-II (Meadow 1973: 195), and therefore provide a very tenuous analyogy with Mundigak III. A few more convincing parallels may be defined in Period IVC ceramics. Limited quantities of a black on a red, buff or gray surface pottery with geometric motifs similar to those of Bampur II-III were found in Period IVC. Among the black-on-buff examples resemblances to Shahr-i Sokhta I, Mundigak III and Said Qala Tepe I-IV maybe distinguished. More convincing parallels can be drawn between the decorated grayware of this period and that of Fiaz Mohammad Graywares in Baluchistan, This grayware appears

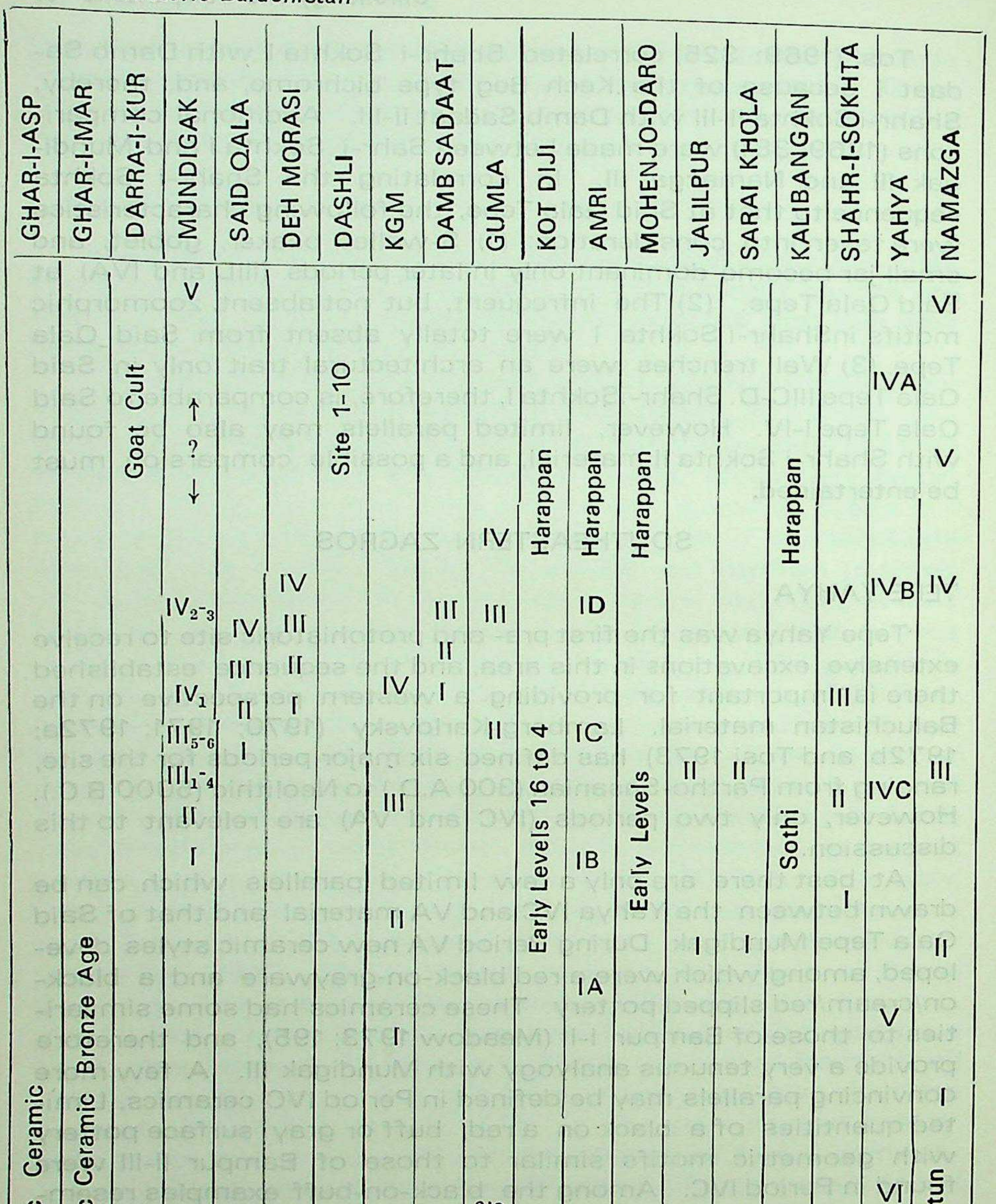

GHAR-I-ASP
Non-Ceramic Ceramic
GHAR-I-MAR
Non-Ceramic Ceramic Bronze Age
DARRA-I-KUR
Goat Cult
MUNDIGAK
I
II
III_{1-4}
III_{5-6}
IV_1
IV_{2-3}
↓ ? ↑
V
SAID QALA
I
II
III
IV
DEH MORASI
I
II
III
IV
DASHLI
Site 1-10
KGM
I
II
III
IV
DAMB SADAAT
I
II
III
GUMLA
?I?
II
III
IV
KOT DIJI
Early Levels 16 to 4
Harappan
AMRI
IA
IB
IC
ID
Harappan
MOHENJO-DARO
Early Levels
Harappan
JALILPUR
I
II
SARAI KHOLA
I
II
KALIBANGAN
Sothi
Harappan
SHAHR-I-SOKHTA
I
II
III
IV
YAHYA
VI
V
IVC
IV_B
IVA
NAMAZGA
Djeitun
II
III
IV
V
VI

Fig. 32 Comparative stratigraphy of select sites

to become more frequent in Period IVB (Yahya sequence designations are from top to bottom). A very interesting piece of pottery from Period IVC was a straight-sided bichrome pot decorated in a Nal style similar to that found at Sohr-Damb, central Baluchistan (DeCardi 1965). Although a *surface* find, a single sherd resembling Amri ID pottery was found. Other associated artifacts for Period IV include Proto-Elamite tablets, cylindar seals, Jamdat Nasr polychrome, beveled rim bowls, and a Harappan seal impression. These limited parallels between Tepe Yahya and sites to the east argue that some limited contact/interaction was taking place. The overall impression is that Tepe Yahya was on the western fringe of Mundigak/Said Qala Tepe related cultures.

Absolute Chronology

PROBLEMS OF CHRONOLOGY

A chronological framework is essential for accurate archaeological description and/or interpretation. In the absence of written or calendarical records, the archaeologist is primarily dependant upon the vicissitudes of radiocarbon *estimates* for a chronological framework. The development of radioisotope dating techniques stands as one of the most significant advances in the history of archaeology. It has replaced chronological guesses with reasonable chronological estimates based upon established scientific data. Despite the significant advances made possible by this technique, archaeologists have become increasingly disgruntled about the so-called "problems" that have become apparent with radiocarbon dating within the last decade (see Renfrew 1970; Agrawal and Kusumgar 1974 for discussions).

Probable sources of error have been noted since the initial development of this technique. Potential error factors are considered to be: methods of sample collection; contamination by foreign materials; variable reliability in the types of material tested; and, the probability of a reasonable date given the sample size (number of dates available). These error factors provided the archaeologists a certain degree of leverage with which to accept or reject the resulting dates based on his own interpretative ideas. However, as the total number of dates available increased and methods of cross checking dates were refined, (written records and tree-ring dates) it became increasingly apparent that more serious error factors were involved. The most important of these were the recalibration of the basic half-lip of radiocarbon from 5569±30 years to 5730±40 years and recalibration of dates necessitated by the "Suess effect" and tree-ring chronologies. The net effect of these developments has been to extend back in time the chronological framework for many areas of the world (e.g. Renfrew 1970). These chronological changes in turn have resulted in major alterations in interpretative frameworks to account for these new dates. At the same time, these recalibrations have themselves been challenged as to their correctness of application. The emergent chronological frameworks in many areas are less than precise and, at times, confusing.

Radiocarbon dating, then, has not developed into the precise chronological tool as hoped by many archaeologists. It is important to remember, however, that radiocarbon dates were never intended to be precise, but rather were reasonable estimates of chronology with built-in ranges of variation and error factors. Current problems quite possibly may be attributed more to the archaeological interpretations of dates than the dates themselves. There has been a certain degree of "misplaced concretness" attributed by archaeologists to radiocarbon dates, which were never intended to be as precise as they have been interpreted. Archaeologists have expected to some extent a degree of precision from radiocarbon dating which was in fact never there. Moreover, there is need for archaeology to reassess the nature and extent of cultural similarity perceivable among sites. That is, what do similarities in material culture mean in terms of cultural processes, and what is the relationship between these processes and chronology? It is increasingly obvious that problems of comparative stratigraphy and chronology do not allow the direct correlations previously assumed. This is reflected in the recent trend to physically separate charts and discussion of these two topics in archaeological literature (e.g. Dales 1973). It is possible that many of the present so-called "chronological" problems are actually interpretative problems of the cultural phenomena observed.

BALUCHISTAN CHRONOLOGY

At present, the chronology of Baluchistan's cultural development is very imprecisely known. There are only a handful of dates from limited excavations at some sites. The sampling problem in terms of both the cultural material and number of carbon dates is therefore acute. Without additional, and horizontal, excavations and more dates, it is premature to discuss absolute chronology, and those attempts which have been made need not be repeated here (see Dales 1973, Shaffer n.d.). Hopefully, the extensive work done at Shahr-i Sokhta will soon alter this situation to some extent. Until then, it will suffice to present the dates obtained from the Said Qala Tepe excavations.

SAID QALA TEPE

Three dates obtained from the excavations are plotted on the accompanying chart (Figure 33).

All three dates are basically contemporary, and, with the MASCA corrections added, date to the very end of the third millennium B.C.—ca. 2100 B.C. Although these contemporary dates support the interpretation of Said Qala Tepe as a single cultural period site, they are considerably later than originally expected. Mundigak III and Morasi II (with Mundigak IV affiliations) have been dated to the mid-third millennium (ca. 2500 B C. see Dales 1973). When questioned, the dating laboratory reported that the only unusual circumstance surrounding these dates was the emission of a particularly putrid odour during processing. At the time, it was suggested that there may be a possibility of contamination. Therefore, this possibility has to be entertained. The other possibility is that the distinctions used to separate Mundigak III and IV are superficial in terms of cultural development and chronology. Therefore, this cultural assemblage (Mundigak III-IV) may have persisted for a much longer period of time than previously suspected. Indeed, the Said Qala Tepe dates would indicate that it was essentially contemporary with the Harappa culture in the Indus Valley. These problems can only be resolved with additional excavations.

SEE FIGURE

RADIOCARBON DATES FROM SELECT SITES

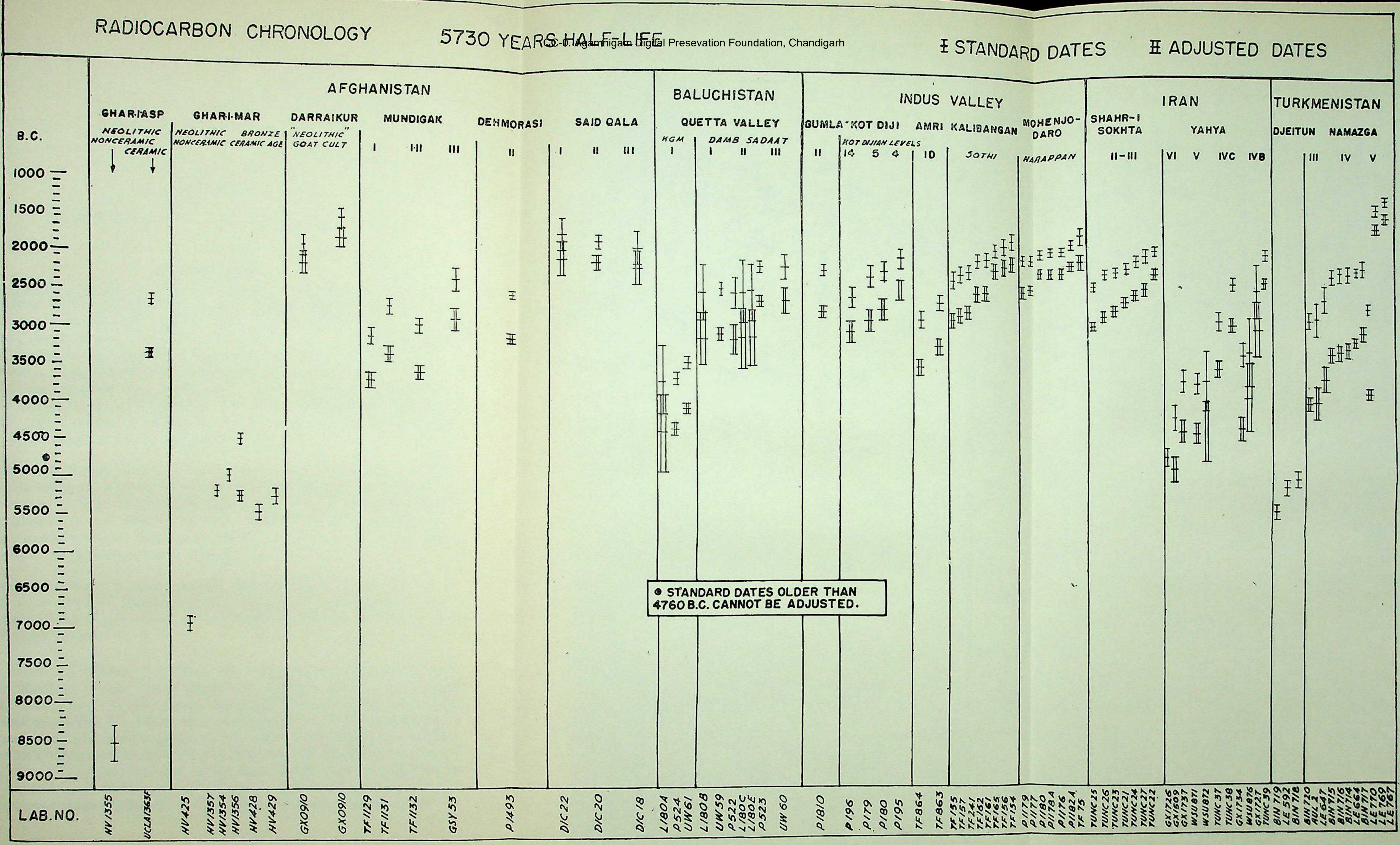


Fig. 33 Radiocarbon dates from select sites (After Shaffer n. d.)

CHAPTER V

INTERPRETATIONS AND CONCLUSIONS

Introduction[1]

The previous chapters have presented the partial results of excavations at Said Qala Tepe and related them to other sites. In so doing, a conscious attempt has been made to refrain from offering explanations about the phenomena involved. Most archaeological investigations, like other social sciences, are concerned with indentification, classification, description, measuring, and reporting (Brown 1963: 47). Explanation usually enters into the scheme of archaeology only when attempts are made to make such work intelligible or to resolve inconsistencies. Brown has stated the role of explanation in social sciences as:

> Explaining away, then, is the removing of an impediment, an impediment either to someone's relationships with other people or to his intellectual understanding. All explanations are attempts to explain away impediments of some kind. They are efforts to deprive puzzles, mysteries, and blockages of their forces, and hence, existence [1963: 41].

Archaeology, as a sub-discipline of anthropology, has been concerned with these "puzzles and mysteries" surrounding man. More specifically, the goal of archaeological explanation has been stated to be:

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[1] Throughout this chapter the author has used the works of Binford (1965, 1968), Renfrew (1972), Clarke (1968) and Watson, LeBlanc and Redman (1971). Many parts of the various theoretical discussions are summarized from their original work. The author has attempted to carefully document all sources and ideas in every instance. If perchance an oversight has occurred, the reader's indulgence is requested, and apologies are offered to the slighted party. It was necessary, however, to discuss at length these ideas in order to point out their application to the Baluchistan material. The statements and applications concerning Baluchistan are solely the author's responsibility.

> . . . the understanding of past cultures, and the explanation of the differences and similarities found among them . . . [Watson, LeBlanc and Redman 1971: ix].

In attempts to obtain this goal two types of explanations have come to dominate archaeological theory: genetic and covering laws.

Genetic explanations have abounded in archaeology almost since its inception as a discipline. Such explanations are:

> . . . a description or an outline of a temporal sequence of events. When this temporal sequence is though of as supplying an answer to a puzzle-question about the origin or development of an event we say that the account forms a historical explanation [Brown 1963: 42-43].

One result of this approach has been the assembling of almost infinite cultural sequences (e. g., Chapter IV) as if they were a form of *sui generis* explanation. The end result is not unlike what Leach (1961: 1) has referred to as ''butterfly-collecting'' for social anthropology. However productive or unproductive this form of explanation is, it has been the primary one utilized in archaeology until recently. In the following discussion, genetic explanations will be referred to as the ''normative school'' (after Binford 1965: 203).

Covering law explanations are concerned with:

> . . . demonstrating that the particular case one wants to explain is an example of general relationships described by an established general law [Watson, LeBlanc and Redman 1971: viii].

In attempting this type of explanation a change in emphasis is necessitated. Instead of concentrating upon description of a temporal sequence of events, emphasis is placed on the delineation of *relationships*—states of connection existing between different phenomena. Therefore, the archaeologist has first to define categories of phenomena which are not situation specific and then seek the relationships between them in such a manner as to promote correlation with, or establishment of, a general law. This type of archaeological explanation is defined here as the ''systematic school'' (after Binford 1965: 205).

The Normative School

DIFFUSIONARY MODELS

BASIC POSTULATES

Few interpretive constructs have been invoked as often, or as extensively, as diffusion. In light of this fact, it is surprizing that a search of archaeological literature reveals few explicit theoretical constructions of the concept. Diffusion is utilized to explain cultural phenomena as are most interpretive constructs of archaeology. However, the postulates used in relation to cultural phenomena are distinctive and serve to differentiate it from the systematic approach.

In essence this approach (see Binford 1965 for extensive discussion) requires that culture be defined as a mental construct which can be abstracted from observed human behavior—ideas. This construction of mental templates is not dissimilar to the "superorganic" definition of culture by Kroeber (1917). Artifacts, then, are objectifications of these ideas, and the archaeologist must abstract from them the normative concepts which existed in the minds of the men who manufactured such objects. Therefore, to study the similarities and differences of past cultures, the archaeologist is dependent upon assumptions concerned with transmission of ideas from one person to another through time and space. Since ideas are abstract mental behaviour, they must be learned from one generation to another or exchanged between social units. Spatial discontinuities in the distribution of such ideas result from:

> . . . (1) natural barriers to social intercourse, or (2) the presence of a value system which provides a conservative psychological matrix that inhibits the acceptance of foreign traits, or (3) the migration or intrusion into the area of new peoples who disrupt the previous pattern of social intercourse [Binford 1965: 204].

Temporal discontinuities are explained as the result of historical events such as trade, migration, conquest, or diffusion.

The underlying assumptions for this model of cultural interpretation are summarized as:

> . . . based on the assumption of a "culture center" where, for unspecified reasons, rates of innovation exceed those in sur

> rounding areas. The new culture spreads out from the center and blends with surrounding cultures until it is dissipated at the fringes, leaving marginal cultures. Cultural relationships are viewed as the degree of mutual or unilateral "influence" exerted between culture centers or sub-centers [Binford 1965: 204].

Binford compares this approach to that of a stream flowing out from its source, and labels this the "aquatic view" of culture. Indeed, in the application of diffusionist theory, V. Gordon Childe, in his classic work on European prehistory, stated this as a basic axiom of interpretation:

> . . . the useful heuristic hypothesis that each invention has been made but once . . . [Childe 1956: 176-177].

Of more direct relevance here is a similar statement by Childe concerning Baluchistan:

> Hence, on the diffusionist postulate assuming that Rana Ghundai I and Sialk I embody the results of one and the same complex of cultural mutations, ample time must be allowed for divergent specialization as well as for diffusion itself [Childe 1954: 204].

Cultural interpretations were limited to the location of the origin of an idea (which meant the site producing the earliest date for the trait in question—"the dating game"), and then ascribing its presence in other areas as a result of the processes of secondary diffusion, migrations/invasions and occasionally trade.

INTERPRETIVE DIFFUSIONARY MODELS

Very few attempts have been made to explicitly state how such diffusionary models actually functioned in reality, for example the abortive attempt of Renfrew (1969: 152-153) to describe invasion and diffusion models. To date, however, the only adequate description of diffusion models has been done by Clarke (1968: 413-431). Clarke defined six types of diffusion models:

1. Polarized diffusion models
2. Culture creep models
3. Stimulus/bow-wave models
4. Counterflux diffusion models

(5) Doppler models
(6) Trend models [Clarke 1968: 418].

These models are refinements of two basic types of diffusion originally defined by Dixion (1928: 59-106): primary and secondary diffusion. Primary diffusion was the spread of a trait within the original culture area of origin. Secondary diffusion was the spread of a trait beyond the originating culture's boundary. It is the latter type which concerns the archaeologists and has been discussed by Clarke. Characteristics of secondary diffusion will vary according to type of artifact involved, method of diffuison, and ". . . the constraint of the plane of diffusion." The constraining plane of diffusion is:

> . . . the permissive and limiting control of the physical environment and the state of the material, economic, religious and psychological system variety and dislocation in the intervening communities, together with the latter's dispersion characteristics [Clarke 1968: 413].

The mechanisms of both primary and secondary diffusion are the same, except that in secondary diffusion mechanisms are less reinforcing and the degree of subject modification greater (1968: 414). Most interpretive statements concerning Baluchistan have utilized but two models of secondary diffusion.

Models Utilized for Baluchistan

Culture Creep Model

This model is applicable when two widely separated areas share complexes of similar elements. Clarke (1968: 420-422) has subdivided this into two models for clarity of application.

Invasion Model

Simply stated, this model involves direct movement of an alien culture into the boundaries of a pre-existing one. Almost every summary of Baluchistan has invoked this interpretive model for at least the end of Harappan culture, if not for the origin of all cultural innovations in the area. The isolation of what appeared to be archaeological proof for the Aryan invasions in the upper levels at Mohenjo-daro (Wheeler 1968: 131-133) had extensive repercussions for general interpretations concerning the area. The supposed documentation of the Aryan invasions as a cause for the demise of Harappan culture made acceptance of similar explanations for earlier periods very plausible—"if it happened once it could happen/Harappan again."

Most interpretations which ascribe to the invasion model tend to qualify such in reference to the earlier periods. An example of this is Allchin and Allchin:

> Through it [*Balnchistan*] wave after wave of immigrants and merchants have pased traveling both to and from India proper (1968: 320 italics added by author).

The most explicit proponent of this interpretation was D. H. Gordon (1947; 1960):

> It must be admitted, however, that such a widespread change over a considerable area from food-gathering to peasant farming and from communities in most cases with no pottery, to an equally widespread use of wheel-thrown pots, with decoration showing a long tradition of this art behind it, must be the result of the arrival of a considerable body of people who were accustomed to this more civilized mode of life [Gordon 1960: 36].

Such allegations of direct invasion are still very much in vogue for interpretations of Baluchistan prehistory, especially in reference to the Harappan culture (for example see Raikes 1968: 141).

Culture Creep Model

Culture creep diffusion is:

> . . . the chance recombination of influences and elements drawn from neighboring areas which have independently diffused to a distant area wherein they re-form an apparent unit complex from a common tradition [Clarke 1968: 421].

Elements diffused are subjected to the channeling constraints of geographical and ecological factors. Clarke notes this is the most common model of diffusion utilized in European prehistory, and the same may be said for Baluchistan.

Having used culture creep diffusion as a model of explanation in his classic work on European prehistory, it is not surprizing that Childe used the same model of explanation for

Baluchistan. This factor was blatantly obvious in his discussions of distributions for the potter's wheel and metallurgy (Childe 1954: 204-206, 228-244). Piggott (1950: 50, 129-130) also subscribed to this mode of interpretation, not only for Baluchistan but for the entire Indian scene. Although referring to occasional direct movements into the area by peoples, his general conclusion was:

> So far as India is concerned, therefore, we must look westwards for the introduction of the arts of agriculture, and it will be seen throughout this book how the Indian material can be properly understood only in terms of its general Western Asiatic setting [Piggott 1950: 50].

Allchin and Allchin's (1968) most recent summary work represents a direct continuation of this mixing of invasion and culture creep models. Allchin and Allchin (1968: 105), although usually invoking immigrations as an explanation, also denote the possibility that changes may have resulted from arrival of mere "new influences" from the West.

Stimulus/Bow Wave Model

Clarke (1968: 422-425) defined this model as involving:

> . . . the like responses to like needs precipitated by outside stimulus not itself copied or adopted [1968: 422].

According to Clarke (1968: 425) this type of diffusion is particularly appropriate for explanations concerning situations involving religious and/or technological innovations. As defined, this model is the epitome of normative interpretation. Since this model is not concerned with the distribution of any specific trait but rather "like responses," it is in fact dealing with ideas and the dynamics involved with them. Due to the abstract nature of the object studied, resulting explanations have also perforce been very abstract. Perhaps it is this abstractive nature which accounts for this model's popularity.

In his last two summaries of the Indus Civilization, Wheeler (1966; 1968) has explicitly subscribed to interpretations based upon such a model, Concerning cultural developments in Baluchistan proper during the third millennium, he states (1968:23) unequivocally that stimuli for the observed developments came from the West—Zagros Mountains and Mesopotamia. In discussing relationships between Baluchistan cultures and the Harappan, Wheeler asserts:

> None of them shows any clear primary and organic relationship with the Indus-Valley culture, which remains obstinately a creation of its own lowland environment [1968: 9].

Although seeing the Harappan culture as a creation of its own environment, Wheeler (1966: 61-62, 1968: 135) still deferred to the West as a source for the ''ideas'' which resulted in that culture:

> But it can at least be averred that, however translated, the *idea* of civilization came to the Indus from the Euphrates and the Tigris, and gave the Harappans their initial direction or at least informed their purpose [1968: 135].

The stimulus/bow wave diffusionary model has been adopted as an explanatory device by almost all archaeologists concerned with the area.

Fairservis (1971: 102-105) attributed the ''*raison d'etre*'' for various cultural complexes in Baluchistan as stemming from a diffusion of early farming complexes from the western Plateau. The source of this original diffusion (1971: 223) was attributed to an Ubaid-Related Horizon defined by Dyson (1965: 218-219) for that area. Likewise, for Harappan culture, the ''*raison d'etre*'', according to Fairservis (1971: 223-225), was the eastward diffusion of an Early Dynastic-Related Horizon (Dyson 1965: 219-220).

The interpretations of Wheeler and Fairservis are generic to the conclusions reached by Braidwood and Willey (1960: 330-359) in their symposium concerned with the development of urbanism. Consistent with this approach was the discussion of Baluchistan presented by Sankalia (1960). In this paper (Sankalia 1960:79) Baluchistan cultures were viewed as the results of traits diffused from the Western Iranian Plateau. The conclusions reached by Sankalia and others in the symposium led Braidwood and Willey (1960: 355) to conclude that the urban way of life was developed in southern Mesopotamia and from there diffused to the rest of the Old World. This diffusion was described as the ''Ubaid 'oikoumene''' since it was the spreading of an idea or concept instead of a particular artifact complex (see also Adams 1966: 20-24).

The above discussion of diffusionary models includes all the major interpretive efforts which have concerned themselves with Baluchistan. These interpretations have been based upon research in, or adjacent to, Baluchistan. Therefore, in order to understand the adoption of these models, it is necessary to examine how the results of such research prompted the application of diffusionary models.

BASES OF MODEL ADOPTION

The Mesopotamian Data

Mesopotamia and its immediate hinterland, the Zagros Mountains, have always occupied a revered position as the ultimate origin or seat of Western Culture. The immediate result has been intensive research in all historical aspects of this area to the neglect of others. As data amassed, a developmental framework was constructed which included most major pre-industrial revolution innovations. Due to the unbalanced intensity of research, these innovations were consistently recorded at an earlier date for Mesopotamia than in less well known areas. Such data combined with the revered position to produce a conscious, or sub-conscious, deference toward Mesopotamia as the birthplace of most major innovations in the early development of complex societies from which they diffused to eagerly awaiting hinterlands. This interpretative situation continued until recently when research in other areas has intensified. (For a similar hypothesis regarding the neolithic see Higgs and Jarman 1969).

The deference to Mesopotamia is exemplified in the comprehensive work on the rise of complex societies by Adams (1966). In reference to the Mesopotamian sequence Adams (1966: 21) points out that it is not only extensive but founded upon a good chronological framework of greater antiquity than for any surrounding area. Furthermore, developments in Mesopotamia all appear to be internal. As a result, Adams, following Braidwood and Willey, adopts a stimulus/bow wave diffusionary model of interpretation for areas outside of Mesopotamia:

> For all Old World civilizations, save that in Mesopotamia, it is at least a matter of continuing debate whether the course of development may not have been significantly influenced by

> a neighboring *civilizational* nucleus of earlier date [Adams 1966: 20].

An examination of the then available data, especially from Baluchistan, was in fact supportive of such interpretations.

The Baluchistan data

The data initially forthcoming from Baluchistan supported, rather than contradicted, this persisting point of view. Initial research in Baluchistan failed to identify a well defined Paleolithic or Neolithic. The first Paleolithic site to be excavated was Sangho Cave (Dani 1964), and it provided no absolute chronology for its Upper Paleolithic assemblages. Likewise, the only "Neolithic" assemblage so identified was Kili Gul Mohammad I with its mid-fourth millennium date.

The Baluchistan sequence was further complicated by the then inability, or reluctance, to define an Early Harappan cultural assemblage in the Indus Valley. Harappan material was always described as "magically" appearing fully mature and intrusive, even at sites which might have produced a predecessor (see Mughal 1970, 1973 for different interpretation). Scholars such as Wheeler (see above) have continued to refuse any definite possibility of a link between Harappan culture and those defined for Baluchistan and/or the Non/Pre/Early Harappan cultures in the Indus Valley. This attitude has persisted to such a degree that Fairservis can state that:

> The sites of the Early Harappan locus have not yet been excavated, and their size is obscured by the presence of both pre-Harappan and Mature Harappan occupations [1971: 221].

Contributing to this situation was the attribution of the fall or demise of Late Harappan/Junkar culture to Aryan invasions, instead of attempting to define a progression of sequential circumstances. However, since 1964, Dales (1966) and Raikes (1967) have objected to such interpretations and have advocated "natural disaster" and other causes.

Initial C—14 dates did little to clarify the situation. The first dates were from the Quetta Valley sequence (Fairservis 1956), The implications of these dates were that an aceramic agricultural village complex had been dated to 3500 B.C., whereas a supposedly similar complex in the western Iranian Plateau had been dated to pre-6000 B.C. at Jarmo, producing a time differential of ca. 2500 years. The first erratic and contaminated dates from the Mundigak sequence contributed to the confusing situation. The early periods at Mundigak, which dated ca. 2100 B.C., were compared to those of Hissar IA—C dating ca. 3800-3000 B.C., demonstrating at least a 1000 years difference.

The data forthcoming from Baluchistan, until recently, established two characteristics very influential in the adoption of diffusionary interpretive models. First, the entire Baluchistan sequence had an intrusive appearance due to: (1) absence of a well defined Paleolithic or Neolithic; (2) the late date of the one complex which appeared to be aceramic Neolithic; (3) failure to identify an indigenous predecessor for the Harappan culture, the most complex cultural development in the eastern regions, and (4) the intrusive nature for the demise of Harappan culture. Secondly, even if the invasion model of diffusion was rejected as unlikely, the initial C—14 dates from Baluchistan were at least 1000 years later than for similar cultural developments in the west. This chronological lag provided the necessary condition of a time differential which could be sufficiently explained by application of the stimulus/bow wave model. The cumulative effect of these factors was not only adoption of diffusionary interpretive models but also the depicting of Baluchistan as somewhat of a cultural backwater, innovating little (if anything), and dependent for its cultural development to arrive via some method of diffusion from the more advanced cultural centers in the western Plateau or Mesopotamia. Considering the state of information, the utilization of diffusionary models for interpretation was understandable. However, the question may be raised as to whether such interpretations actually were explanatory for the cultural processes involved. It is this question which must now be addressed.

DIFFUSIONARY MODELS AS EXPLANATIONS

Diffusionary interpretive models have been utilized in anthropological theory for an extensive period (see Harris 1968 : 173-179, 373-392). During this time, they have been intimately connected with the normative approach to cultural explanation. This approach has also been termed the partitive approach to cultural explanation (see Binford 1965 : 203 from which much of this discussion is taken). The essence of these approaches is that culture can be divided into parts-in this case artifacts—which reflect the ideas which produced them. Such ideas are shared by participating members of the culture, and their delineation is the object of study. Ideas are learned behavior; therefore, culture change can occur only in two manners : (1) individual (persons or cultures) mental innovations, or (2) the acquisition of such innovations, via the learning processes, from the individuals (persons or cultures) who possess knowledge of such innovations. Aberle summarized this approach as follows :

> No culture can be understood solely by reference to its current situation. As a result of the accident of history, it has had contacts with a variety of other cultures. These others cultures provide the pool of potential cultural material on which cultures can draw. Since there is no general basis for predicting what cultures will have contact with what others, the historical factor has an accidental and fortuitous character. With respect to the psychic factor, there are qualities of men's minds—whether general tendencies to imitate or specific attitudes held by a particular group—which determine whether or not any available cultural item will be borrowed. Although the contacts are unpredictable, the laws of psychology may account for acceptance and rejection. Hence the laws of culture are psychological law [1960 : 3].

As a consequence, the normative approach provides two explanatory levels for archaeologists (Binford 1965 : 204) : (1) historical accidents, or (2) paleo-psychology. Attempts have been made to offer explanations at both levels.

Although the nature of archaeological evidence is not conducive to psychological analysis, attempts have been made along this direction of inquiry, for example Frankfort's "form" of civilizations :

> .. the individuality of a civilization, its recognisable character, its identity which is maintained through the successive stages of existence . . . . We recognize in it a certain coherence among its various manifestations, a certain consistency in its orientation, a certain cultural "style" which shapes its political and its judicial institutions as well as its morals. I propose to call this elusive identity of civilization its "form." It

> is the form which is never destroyed, although it changes in course of time [1951 : 16].

Such "forms" are not only "elusive" to identify but, once found, they have to be qualified in such a way as to become too generalized to provide meaningful explanation of cultural phenomena.

The other level of explanation is that of tracing the course of "historical accidents," or the double dimensional plotting (time and space) of the "travels, trials, and tribulations" for an artifact type. The basic problem with this diffusionary explanation has been stated by Harris :

> ...diffusion is admittedly incapable of accounting for the origin of a given trait except by "passing the buck" back through an infinite regression : A←B←C←? As soon as we admit, as the archaeology of the New World now compels, that independent invention has occurred on a massive scale, diffusion is by definition not only superfluous but the very incarnation of anti-science [1968 : 378].

This situation has resulted in what has been termed a "crisis" in archaeological interpretation because :

> ....normativists do not deal with relationships between norms but attempt to explain the norms themselves. However, because these norms are regarded as independent forms and not as functional aspects of the culture, one can only describe them and their travels or distribution [Watson, LeBlanc and Redman 1971 : 63].

Therefore, the study of artifacts as representatives of mental templates has resulted in either vague "psychological" conceptualizations or the compilation of timetables involving several localities linked only by the equally vague forms of migration and diffusion.

Unfortunately, lack of satisfactory explanations has not been the only outcome of this situation. Reliance upon diffusionary models has hindered research into investigations which might have produced non-historical accident explanations.

> Too much emphasis has been placed on supposed invasions and diffusions from "higher centers of civilization" and insu-

> fficient on the economic and social development of what may have been, for many purposes, essentially independent systems [Renfrew 1969 : 151].

Furthermore, acceptance of diffusionary interpretive models for an area may have formed the foundation for construction of other explanatory models and arrangement of data on an unacceptable basis of historical accident. The major example to date is the European Bronze Age, where a diffusionist model is the foundation for ordering of cultural successions themselves—the "factual" data upon which further conclusions are postulated (Renfrew 1969 : 153). The fallacy of this methodology has recently been exposed by revisions of the C—14 chronology for parts of Eastern Europe (Renfrew 1970). Many traits once considered diffused to Europe from the Near East are much older in Europe than their supposed source. Metallurgy developed earlier in the Balkans than in the Aegean and, therefore, diffusion from the Near East is unlikely. One of the most important results of this new chronology for Europe has been the advocacy of a re-ordering of archaeological priorities :

> High among the priorities is a need to consider just how innovations are communicated between cultures: "diffusion" and "influence" are no longer meaningful words. There is a need to think in positive, order-of-magnitude quantitative terms . . . . And above all it is worth while to think, where possible, in terms of social relationships rather than artifacts [Renfrew 1970: 207].

These considerations, then, were paramount in interpreting the Said Qala Tepe material. Initially, however, it is necessary to examine how that data affects the applicability of previous diffusionary interpretive models.

CHRONOLOGY OF BALUCHISTAN AND DIFFUSIONARY MODELS

As the concept of diffusion has been applied to Baluchistan, it is necessary to accept the hypothesis that any trait can be attributed to a single innovation, and its dispersion outside the area of origin is the result of horizontal extension through time (Childe 1954: 204; 1956: 176-177). Generally the length of time interpreted as necessary for such dispersal is quite variable but usually assumed to be extensive, or at least "ample". The amount of time needed (chronological lag) for the dispersal of such traits as the potter's wheel or metallurgy from the west to Baluchistan has usually been considered to be 1500 to 2000 years (for example see Allchin 1968: 100-101, 124).

Utilization of diffusionary models requires that ". . . a very close regard to chronology must be paid . . . ." (Hole and Heizer 1969: 400). It is necessary for chronological data to indicate some sort of time gap between cultural developments in the west and Baluchistan. One of the important results of recent excavations has been to question the extent and significance of any such chronological gap between Mesopotamia and the eastern areas of the Iranian Platear and Indus Valley.

New comparative chronologies for these areas indicate a significant reduction in the time differentials for major cultural developments between the west and these eastern regions. Therefore, one of the basic necessary conditions for the application of diffusionary models may be challenged. A similar conclusion was reached by the recent recalibration of C-14 dates by Renfrew:

> The Indus civilization here appears the contemporary, not the successor, of the Sumerian, and was clearly much more than a mere offshoot brought about by Mesopotamian expansion or influence [1970: 203].

In summary the interpretive, diffusionary models are not only unsatisfactory as a mode of explanation, they cannot be satisfactorly articulated with the current data. The cultural developments in Baluchistan are not just pale reflections of ideas which were innovated in Mesopotamia or the Zagros Mountains. Rather, they must be interpreted as essentially *indigenous* phenomena, and their explanation must be sought within an internal cultural and chronological framework. To accomplish this (Binford 1965), artifacts can no longer be viewed as representing partitive objectifications of mental templates which, when studied, will reveal the shared ideas of men constituting their culture. Artifacts must be interpreted as representing relationships which exist between men, and between man and his environment. It is only by studying such relationships that we can begin to understand the possible cultural dynamics of areas such as Baluchistan.

The Systematic School

A SYSTEMATIC MODEL

INTRODUCTION

An internal explanation model for cultural developments in Baluchistan is not original with this discussion. Dales (1965) was the first to organize an internal framework for the correlation of total archaeological assemblages. However, in his attributing initial stimulus to the Near East, there is no discussion of "Ubaid/Early Dynastic Horizons," invasions, or traits diffusing from the west. Rather, Dales attempts:

> . . . to cast Afghanistan and Baluchistan in thair proper role as the homeland for the development of the various cultural, social, and economic experiments that provided the necessary antecedents for the rise of civilization in the Indus Valley [1965 : 257].

However, Dales made no attempt to apply an explicitly systematic model to the data, but his non-emphasis on foreign parallels and emphasis upon internal developments was a necessary precursor to the interpretation proposed here.

BASIC POSTULATES

Binford (1965), in advocating abandonment of the univariate normative approach to culture, proposed a systematic multivariate one to replace it. This systematic approach combined versions of Kroeber's (1939) "culture area" concept with that of "interaction spheres" (Caldwell 1964) into a tripartite systematic framework based on a different definition of culture. Culture was defined as:

> . . . man's extrasomatic means of adaptation . . . ; in the partitive sense culture is an extra-somatic adaptive system that is employed in the integration of a society with its environment and with other sociocultural systems [Binford 1965: 205].

Culture, then, is not a collection of ideas which are shared in by men, but rather a system(s) of functioning relationships which provide for man's existence within the realm of his environment

(environment here is defined in its broadest sense inclusive of other men). In other words, culture is:

> . . . participated in by men. In cultural systems, people, things, and places are components in a field that consists of environmental and sociocultural subsystems, and the locus of cultural process is in the dynamic articulation of these systems [1965: 205].

Binford (1965) notes that a successful adaptation to environmental factors cannot be accomplished with a univariant system, especially when more than a single individual is involved. As a consequence, multivariate approach must be utilized to obtain an understanding of the multiple systems which must function for a succesful, or for that matter unsuccessful, environmental adaptation. Culture cannot be reduced to a single variable, and its operation must be understood in terms of several subsystems which may function independently, or in combination with one another.

A multi-variate approach to analysis of cultural phenomena emphasizes the need to organize such phenomena into a systematic framework. Artifacts may be organized into three broad cultural alignments or categories. Such categories are not only distinguishable, but also may vary independently of each other (1965: 207).

SYSTEMATIC CULTURAL CATEGORIES

Adaptive Area

The adaptive area concept is similar to that of the "culture area" originally defined by Kroeber (1939). A major difference (Binford 1965: 208) is that the adaptive area has excluded stylistic elements which were included in the "culture area" concept. The essence of the adaptive area is an area which:

> . . . exhibits the common occurrence of artifacts used primarily in coping directly with the physical envionment [1965: 208-209].

Tradition

A tradition is:

> . . . a demonstrable continuity through time in the formal properties of locally manufactured craft items . . . [1965: 208].

More simply stated this is stylistic variability in artifacts, for Baluchistan ceramics are used. Within a given time horizon a tradition could be spatially defined as a "style zone". The usefulness of this category was stated by Binford:

> Through time we may study the areal extent and stability of style zones and the comparative history of local traditions within the framework of the macrotradition [1965: 208].

Interaction Spheres

This category represents a refinement of the interaction sphere model first proposed by Caldwell (1964) for Hopewell cultural phenomena in North America. This concept has been utilized to a limited extent in regions near Baluchistan, namely at Tal-i-Iblis (Caldwell 1967) and Tepe Yahya (Lamberg-Karlovsky 1972b; Lamberg-Karlovsky and Tosi 1973). As defined by Binford, interaction spheres are:

> . . . sociocultural relationships which are reflected in widely exchanged artifacts occurring in a context of social distinctiveness [1965: 208].

What is being referred to here are avenues of communication existing within and between cultures which cross-cut both traditions and adaptive area. This communication is reflected in the distribution of identifiable intrusive artifacts at the involved sites. It is the study of such artifacts that gives this conceptualization its methodological value:

> Through the study of the spatial distributions of such items on a single time horizon we may define *interaction spheres*—the areal matrices of regular and institutionally maintained intersocietal articulation [Binford 1965: 208].

By using this multidimensional framework, Binford maintains that it will aid in the isolation of the causative factors responsible for various culture changes, similarities, and differences. Additionally, it will initiate a basis for the study of comparative rates and patterns of such changes among different classes of cultural phenomena. In light of the inapplicability of the diffusion models, and the advocated potential of the systematic approach, an attempt will be made below to test this methodology against the Baluchistan data.

BALUCHISTAN SYSTEMATICS

ADAPTIVE AREA

Basic Subsistence Pattern

Environment conditions of Baluchistan were discussed previously (Chapter II). It will suffice to state that we are dealing with what is usually referred to as a semi-arid zone. The basic artifacts of adaptation to this zone were domesticated plants and animals. Quantification for presence of domesticates still is in its initial stages for Baluchistan and other areas of the Eastern Iranian Plateau. Dupree (1964; 1972) identified domesticated sheep/goat and cattle (?) dating to ca. 7000 B. C. (8650±100 and 10,210±235 B. P.—Dupree 1972: 76-77) at Aq Kupruk in northern Afghanistan. These dates demonstrate that domesticates have a considerable antiquity in the Eastern Iranian Plateau, albeit not directly applicable to Baluchistan proper. However. a dependence upon domesticates is not solely based upon conjecture, as limited evidence exists for Baluchistan which suggests such a subsistence pattern for that time period.

Fauna and Flora Remains

Deh Morasi Ghundai

At Deh Morasi Ghundai, Dupree (1963 : 81-82, 100) recorded a single grain of wheat for Morasi I. Chowdhury (Dupree 1963 : 126-131) identified barley *(Hordeum)* and fodder grass *(Aegilops)* as present in mud bricks used in the shrine complex of Morasi IIA. Domesticated sheep/goat and bovine bones were identified for all periods except Morasi I, which is attributed to sampling. In correlating flora and fauna remains with the rest of the assemblages, Dupree (1963: 120) suggested that Deh Morasi Ghundai represents a semi-nomadic settlement which had a symbiotic relationship with other *peasant* villages. Regardless of the nomadic state, occupants of Deh Morasi Ghundai were exploiting domesticates.

Mundigak

From a structure in Period II_3 Porteres (Casal 1961: 260) identified grains of *Triticum compactum.* or "club wheat," and seeds of *Zizyphus vulgaris* Lamarck, a fruit commonly called jujube. Helbaek (1969: 399, 413) has noted that this tree fruit is generally located on high gravel land and occurs in groves. This fruit is collected today in spring and eaten in the winter. It would appear that such a pattern has great antiquity. Moreover, it indicates a considerable range in the variability of environmental exploitation at this time. Domesticated sheep/goats and cattle *(Bos indicus?)* were recorded in *all* periods at Mundigak.

Quetta Valley Sites

Unfortunately, the only flora identified for these sites was that of modern species. Fauna remains that were identified for all periods of the Quetta sequence (Fairservis 1956: 382-385) were: sheep/goat, oxen *(Bos indicus)*, horse *(Equus hemionus)*, several small mammals. roe deer *(Capreolus)*, tortoise *(Testudo horsfieldi)*, and several bird bones. According to Fairservis (1956: 382), the greatest quantity of bones were recorded for sheep/goat, followed by cattle. By examining teeth wear, it was apparent that most animals—sheep/goat—were slaughtered before two years of age. However, several were also found that indicated some individuals were kept alive to a considerable age. This factor might indicate utilization of wool. In the case of cattle, teeth wear showed that while calves and young adults were slaughtered, the majority were kept longer than the sheep/goats, perhaps indicating a utilization of dairy products. However, there is little doubt as to the extensive utilization of domesticates at these sites throughout the sequence.

Said Qala Tepe

The fauna and flora remains from this site still await analysis. Basic field observations (Shaffer 1971a) indicate that at least sheep/goat, and cattle *(Bos indicus?)*, were present in quantity throughout Periods I-IV. It is also felt that when analyzed, bones of ibex, deer, and other small mammals, as well as birds, will be identified. At present, it is felt that no question as to exploitation of domesticates by inhabitants of the site for all periods can be raised.

Amri

A very diverse range of fauna remains were identified at Amri by Poulain-Josien (Casal 1964 : 164-169). This diversity is attributed to somewhat different environmental conditions created by the presence of the Indus River. The main domesticated animal by far was cattle *(Bos indicus)*, followed by sheep/goat in all periods. No flora analysis for the site is available.

In summary, it appears that domesticated sheep/goat and cattle were extensively utilized. While the primary focus of utilization for both might have been as a meat source, there are indications that by-products such as wool and perhaps dairy goods were also being exploited. It is unfortunate that the flora remains are so few. *Triticum compactum*—Mundigak II—is a bread wheat, and is considered by Helbaek (1955: 54) a domesticated variety. The presence of a grain of wheat in Morasi I, and barley and fodder grass (a common type of weed associated with early domesticates in the Zagros—Helbaek 1969: 397) in Morasi II, argues that domesticated cereals were known and utilized.

Settlement Pattern

The importance of settlement patterns as part of the adaptive area has been pointed out by Willey:

> In settlement, man inscribes upon the landscape certain modes of his existence. These settlement arrangements relate to the adjustments of man and culture to environment and to the organization of society in the broadest sense [1956: 1].

The close relationship between environment and settlement patterns is exemplified by the "principle of least-cost." This basic assumption is :

> . . . that settlements will be located in such a way as to minimize the effort expended in dealing with the environment. Thus, necessities such as water, fuel, and agricultural land could be the prime determinants of site location [Watson, LeBlanc and Redman 1971: 102].

The fact that such considerations would be of paramount importance among societies based upon utilization of domesticates needs no elaboration. This principle is especially applicable to a semi-arid zone such as Baluchistan. Although thear chaeological record is scanty at best, some patterning is preceivable.

When viewed in the framework of the ethnographic present (Dupree 1970; Barth 1956, 1961; Sunderland 1968) at least two basic types of sites are possible. One is the permanent settlement of agriculturalists, and the other is the semi-permanent settlements of nomadic pastoralists. Except for cave sites (Dupree 1958, 1972; Dani 1964), and possibly Morasi II, all sites dicussed may be classified as belonging to the permanent village type. This classification is justifiable on the basis of stratigraphy at these sites. In all cases, stratigraphic evidence indicated that the sites were occupied by substantial settlements from the initial occupation until abandoned. There were no appreciable discontinuities recorded in the stratigraphy of these sites. The material culture is also supportive of this conclusion, as it demonstrates a basic continuity with changes that do occur appearing within the range of expectable internal innovation.

The nomadic pattern hypothesized for cave sites is based mainly upon ethnographic analogy and limited archaeological evidence. First there is the partially discontinuous nature of stratigraphy at these sites. In some instances, the stratigraphy is marked by relatively sterile strata separating those containing cultural deposits. More generally speaking, lack of structural remains, presence of hearths, and artifact types encountered may also be interpreted as indicating a nomadic settlement. The single instance of a mound site indicating such a settlement pattern is unique-Deh Morasi Ghundai. At this site, there was a break in the cultural deposits between Morasi I and II. Dupree (1953 : 120) has suggested that the break in stratigraphy, in combination with Chowdhury's interpretations of botanical remains, might represent a semi-nomadic occupation with the site's abandonment for periods of time.

Raikes and Dyson (1961 : 270-272) have suggested a related, but somewhat different, settlement pattern. In an attempt to integrate the distribution of certain cultural traits-ceramics-with the pronounced geographical regionalization of Baluchistan, they hypothesized that many of the tested sites were regular seasonal habitations of migratory tribes. Such a hypothesis would explain the presence of cultural items in regions outside their origin-such as Nal ceramics at Said Qala Tepe--and be consistent with the geographical regionalization and known ethnographic data. The larger sites were interpreted as permanent residences of important tribal members who for one reason or another did not take part in the transhumance pattern. Raikes (1965a, 1968) developed this hypothesis in subsequent articles emphasizing the geographical regionalization of Baluchistan. While the author does not accept this transhumance pattern totally, it has been influential in formulating the following hypothesized settlement pattern.

Raikes (1968) has pointed out that some regions are better suited for a pastoral economy than an agricultural one, especially in the absence of extensive irrigation. However, in all regions, agriculture could be practiced in the immediate river flood plain areas with no, or very simple, irrigation methods. As one moves away from this plain, land becomes increasingly less conducive to agriculture, either from lack of water or terrain roughness, and would be better suited to pastoralism. All the sites referred to as agricultural villages are located in the immediate vicinity of such a flood plain. Cave sites are located away from the plain in areas not immediately conducive to agricultural exploitation. This fact combines with others already mentioned for these latter sites to argue for their semi-nomadic pastoral settlement pattern classification. Water supply vagaries, or perhaps the limited archaeological sample, are responsible for the semi-nomadic nature ascribed to Deh Morasi Ghundai.

To summarize, the hypothesized settlement pattern for Baluchistan would be as follows. Along flood plains of rivers receiving mountain run-offs would be located permanent villages based upon an agricultural subsistence. Away from these cultivable plains, in relation to the availability of arable land and water, are semi-nomadic settlements based upon a pastoral subsistence. Such a settlement pattern should not be interpreted as representing mutually exclusive cultures, because interaction between the two was not only possible, but perhaps necessary for the existence of both. This hypothesized pattern is consistent with the ethnographic data available.

Material Culture

Artifacts, which relate man immediately to his physical environment fall into rather general categories. Perhaps the most important categories are those concerned with providing shelter from the environment—architecture—and with immediate procurement and processing of subsistence products.

The architecture of the entire area was based upon construction with mud brick and/or pise. Some regionalization was apparent in the degree to which mud bricks were used. Where stone was available, it was utilized for foundation courses such as at Anjira-Siah (DeCardi 1965 : 93, 101) and the Quetta Valley (Fairservis 1956: 207-210, 222). In other areas, mud bricks and pise are used exclusively for construction. The extent of wood utilization is unknown. At least in later periods (at Shahr-i Sokhta and Mehi), wood has been recorded for roof beams and stairs. However, at several sites it is absent, This absence is probably attributable to its re-utilization. Given the environmental conditions, wood was no doubt a valuable commodity in most regions, as it is today. The primary unit of construction was the basic habitation structure with single or multiple rooms. More rarely, large wall structures have been located. Besides these large walls, the only large or public structures are confined to later periods such as the "temple and palace" complexes of Mundigak IV. Adjustments to the physical environments of the various regions are also noticeable in the architecture, such as the mud brick foundations which may have supported superstructures at Amri (Casal 1964 : 5).

Concerning other artifacts, only very general statements may be made. The presence of large storage vessels was no doubt to prevent dampness and protect against rodents. Grain was processed on large and small metates with grinding stones, which share a basic stylistic similarity throughout the area. A hafted tanged hoe is found throughout the area, generally manufactured from hard types of stones. At Mundigak and Kot Diji, and more rarely at other sites, were located extensive flint industries concerned with manufacturing blades and points. Points generally were small and probably used for taking small game. Blades were usually long prismatics, most likely used for cutting. Also found at almost every site were small clay "sling stones" which also might have been related to taking small game. These, then, are some of the material culture artifacts most directly concerned with man's relation to the Baluchistan physical environment. One should also include here the domesticated plants and animals, which are essentially human artifacts.

Summary

The "adaptive area" of prehistoric Baluchistan is still incompletely known. Even so, a basic pattern emerges which demonstrates a possible continuity with that known for the ethnograpic present. What emerges are groups of cultures dependent upon exploitation of domesticated plants and animals, supplemented to a limited degree by products of hunting and gathering. The limitations of arable land and water confined agriculture to the immediate flood plains of perennial rivers. Away from the flood plains, there was increasing dependence upon a pastoral subsistence more suitable to the available resources. This system not only allowed for maximum exploitation of resources, but also resulted in production of goods, the surpluses of which, to some degree, were mutually exclusive. In items of material culture, the adaptive area would resemble closely those items of today, if the products. of Western Industrial Revolutions were removed. The persistence of this system's essential pattern into modern times reflects its efficiency.

TRADITIONS

Binford defined the concept of "tradition" as referring to ;

> ....either a single class of artifactual materials, such as ceramics, or to several classes of artifacts of a single sociocultural system which exhibit continuity through time [1965 : 208].

Ceramics have been utilized here as the class of artifactual material best suited for the definition of Baluchistan traditions. This was because of the long accepted archaeological assumption that ceramics are among the most sensitive indicator of sociocultural systems. In addition, ceramic artifactual materials are thə most elaborately defined and quantified class of data available for the area. Furthermore, existence of certain ceramic "stylistic zones" has been recognized for some time. Piggott (1950: 72, after McCown 1942) presented the first definitions of such zones by dividing the ceramics first into "Buff Ware" and "Red Ware" groups, which were sub-divided into what he considered distinctive groups—Quetta, Amri-Nal, Kulli, and Zhob. The following traditions include not only those defined by Piggott, but also additional ones resulting from recent research.

A chronological note must preceed this discussion of various traditions. The chronological affiliation of many of these traditions, with the exception of the Harappan, is variable. That is, it cannot be assumed that all these traditions are necessarily contemporary. The Harappan tradition is the only one with a sufficent number of c—14 determinations, and most of these come from a limited number of sites. Other traditions are chronologically known from only a very limited, and insufficent, number of c—14 dates. As a result, some traditions appear to have a greater antiquity than others. Likewise, some traditions appear to be stratigraphically "earlier" than others. Stratigraphic interpretations are similarly plagued by very limited sample size in many instances. Concurrently, an appreciation of stratigraphic association between various traditions is impossible without adequate chronological cross-checking. In other words, it is difficult to evaluate the significance of stratigraphic changes without an adequate number of c—14 dates. There is no intuitive means of knowing whether or not the 3 feet of deposition representing strata 1, and the cultural differences it demonstrates with strata 2, are the result of 30 or 300 years of cultural activity. The problem is complicated by unknown different population densities at various sites. Obiviously, a heavily populated site will have a faster rate of debris accumulation, and a greater ability to change the structural elements of a settlement, than a site with a smaller population. Moreover, the growing awareness among archaeologists of the limitations to the sensitivity of c—14 dating make such interpretations even more difficult. Some of the traditions discussed do seem to have a greater antiquity, but that in itself does not mean they could not persist in time and be contemporary in part with later developments. The problems of chronology are acute throughout the regions under discussion, and must be constantly kept in mind when evaluating any interpretative framework. Although chronological differences exist between some of these traditions, it is not felt at this time that such differences would alter significantly the basic interpretation presented here.

Quetta Tradition

This style zone was initially defined by Piggott (1947). The geographical area corresponds to the Sarawan region of Baluchistan. Major sites classified as belonging to this style zone are :

Mundigak, Deh Morasi Ghundai, Said Qala Tepe, Damb Sadaat, and other Quetta Valley sites. The ceramics have been described by Piggott (1947, 1950 : 73-75) and more recently by Fairservis (1956 : 255-256, 259-261, 263, 321-326) (Figure 34.)

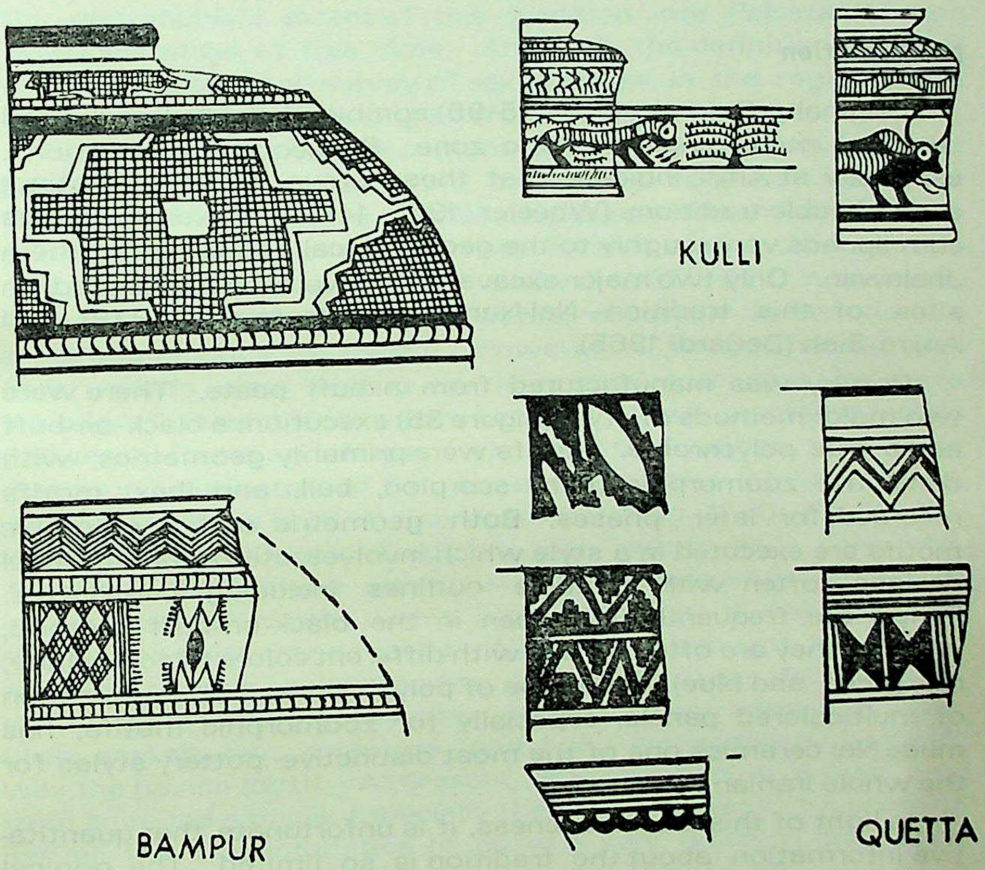


Fig. 34

Ceramics were manufactured from a buff-red paste, and decorations were applied either directly to the surface or onto a white-buff slip. Motifs are mainly geometrics (Fairservis 1956: 321-326; and Chapter III this report), with zoomorphic motifs occurring in later periods. The basic motif combinations are:

> .. chevrons formed by combining thick and thin bands . . . , an overall pattern made up of diagonally divided squares, pairs of opposed triangles, and, most distinctive, various stepped and oval motifs [Piggott 1950: 73-74].

Such geometrics are executed solidly, and, in several instances, emphasis is upon unpainted areas producing a negative effect, especially in early periods. The Quetta Tradition is not only very distinctive, but also one of the best defined for Baluchistan.

Nal Tradition

Originally, Piggott (1950: 75-95) combined the Nal and Amri ceramics into a single stylistic zone. Subsequent excavations, especially at Amri, indicate that these are in fact two distinct and definable traditions (Wheeler 1968: 14). The Nal style zone corresponds very roughly to the geographical region of northern Jhalawan. Only two major excavations have been conducted on sites of this tradition—Nal-Nundara (Hargreaves 1929) and Anjira-Siah (DeCardi 1965).

Pottery was manufactured from a buff paste. There were two major methods of style (Figure 35) execution: a black-on-buff and a true polychrome. Motifs were primarily geometrics, with distinctive zoomorphic (fish, scorpion, bull, and ibex) motifs recorded for later phases. Both geometric and zoomorphic motifs are executed in a style which involves utilization of panel designs, often with multiple outlines including curvilineals. Panels are frequently left open in the black-on-buff method, whereas they are often infilled with different colors (black, yellow, red, green, and blue) in the case of polychromes. This utilization of multicolored panels, especially for zoomorphic motifs, has made Nal ceramics one of the most distinctive pottery styles for the whole Iranian Plateau.

In light of this distinctiveness, it is unfortunate that quantitative information about the tradition is so limited. The original excavations by Hargreaves concentrated on a cemetery area. It is from this area that most of the information about the polychromes are known. The Anjira-Siah sequence is the only sample (though limited) at present available for a non-cemetery provenience. The exact relationship there between definitely Nal style ceramics of late Period III and Period IV is not exactly clear, since DeCardi (1965: 126) attributed earlier periods to influences of "cultural waves" from Iran. Despite these inadequacies, the Nal Tradition stands as one of the most important and distinctive found in Baluchistan, even if one of the least well defined.

Bampur Tradition

This tradition has been entirely defined by DeCardi (1967, 1968, 1970), who utilized the earlier work of Stein (1937). The geographical region of this tradition is Persian Mekran. However, the geographical extent of this tradition into Pakistan Mekran is problematical at this time. Although the definition is based upon excavation and survey of several sites in the region, it will be subsumed under the single reference of Bampur.

Bampur ceramics were manufactured from two kinds of paste; one was red and the other, less frequent, was gray. Ceramics of both pastes almost always bore some kind of decoration. The cohesiveness of these ceramics as indicators of a stylistic tradition was noted by DeCardi (1970: 277) in her reference to a "Bampur Culture." Motifs, especially in Periods I-III, are predominantly geometric. However, a *few* zoomorphic and floral motifs were among the illustrated specimens for these periods. A resemblance exists between these geometric motifs and vessel forms and those of the Quetta Tradition. The main distinguishing feature of Bampur motifs is the infilling of large geometric motifs with a fine cross-hatching (1970: Fig 19, 23), whereas in the Quetta Tradition, such motifs have solid infill. Another distinguishing aspect was the arrangement of motifs into horizontal panels with a high incidence of checkerboard, sigma, and palm-frond motifs. Although infrequent in quantity for early periods, several forms of animals were found represented by zoomorphic motifs. Among those identified were: birds, snakes, ibex, scorpions, and fish. Noticeable by its rarity was the bovine motif. At present, this tradition is known only from a limited sample, especially the earlier periods; however, it has all the characteristics of being a very distinct one when contrasted with those from other regions (Figure 34).

Zhob Tradition

The Zhob Tradition is the least well known of all Baluchistan traditions. Knowledge is based entirely upon site survey with limited excavations (Stein 1929; Fairservis 1959), and observation of natural exposures (Ross 1946; Piggott 1950). Piggott (1950: 119-131) was the first to define a "Zhob Culture" based mainly on a red ware ceramic, with distinctive bovine motifs. Utilizing the distinctive female figurine associated with these ceramics, Fairservis (1971: 147) has proposed the existence of a "Zhob Cult Phase" for Baluchistan prehistory. Except for comparative stratigraphies (Dales 1965), chronological information is totally lacking for this area—northern Sarawan and Duki Regions. However, the known sites--Rana Ghundai (Ross 1946; Piggott 1950: 120), Sur Jangal (Fairservis 1959: 300), Dabar Kot (Stein 1929: 55-64; Fairservis 1959: 311-328), and Periano Ghundai (Stein 1929: 31-41; Fairservis 1959;329-359)—appear to be relative to the discussion here.

Piggott (1950: 119) originally classified this ceramic style as belonging to a Red Ware group. However, Fairservis (1959: 365-383) described several buff ware variants for this area and style. As noted by Fairservis, there is a strong resemblance between early periods of the Zhob and Quetta Traditions. Given the close geographical proximity, such similarity is not unexpected. Motifs are mainly geometric and executed in panel designs with a black paint on a red slip. The most distinctive characteristic of this tradition is the zoomorphic motifs of Period II (Figure 35). Motifs of ibex and bovines (*Bos indicus*) are highly stylized with elongated legs and bodies. The area between the legs is hatched filled giving the tradition a very distinctive appearance (Fairservis 1971: 153).

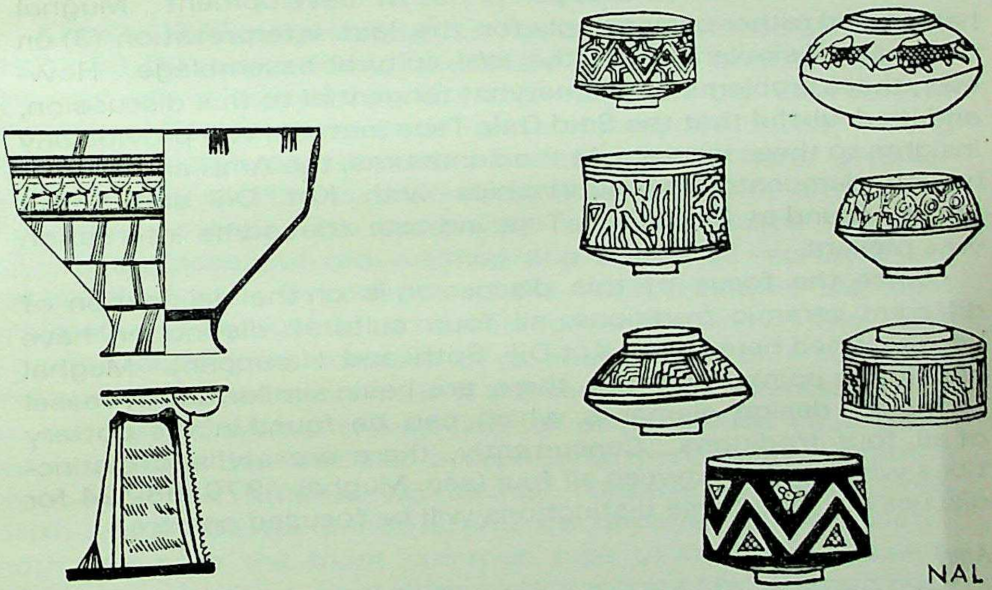
Kulli Tradition

This tradition's major geographical region appears to be southern Jhalawan. Stein (1929: 154-163) excavated the major site of this tradition at Mehi. More recently, survey with limited excavation has been done by Fairservis (1967; 1971: 185-216) on the Edith Shahr complex of sites—namely Niai Buthi—and more extensive excavations have been done by Casal (1966: 10-21) at Nindowari.

Ceramics were manufactured from a buff paste. The motifs are executed with a black paint (sometimes a broad red line will be used) on a pinkish slip (Figure 34). Piggott (1950: 100-102) has provided the classic description of this ceramic style:

> The typical painted decoration on Kulli ware consists of zones of non-representational motifs between which, in many instances, runs a frieze of natural representation of animals and plants. This frieze forms the major content of the pots' ornament, and forms a single continuous band around the

> pot . . . . The frieze represents a standard scene, in which two animals, usually humped cattle but sometimes felines, dominate in grotesquely elongated form, a landscape with formalized trees and sometimes ancillary rows of diminutive, very stylized goats . . . . Above the major animals W-shaped friezes may represent conventionalized birds, a fish is present in at least one instance, and various rosettes and other symbols fill the background on some pots . . . . A stylistic sequence of degeneration seems to exist on the Kulli pots, In which the background becomes progressively crowded with irrelevant symbols and the drawing of cattle and trees becomes heavy and clumsy, until one reaches the absurdities of the balloon-bodied stage beetles which seem to peer out in distress from an atmosphere thick with disintegrating goats and sigma motifs [1950: 100-102].



ZHOB

NAL

Fig. 35

Generally the cattle are tethered to either a tree or some other object and occasionally pipel leaves are found. Geometric elements have been found in paneled zones but never interfering with the zoomorphic scene. The Kulli Tradition has acquired much of its importance from its contemporaneity with the Harappan Tradition, and supposed influence upon later phases of other Baluchistan traditions. Early phases of this tradition have yet to be defined, but there does appear to be some connection between the Kulli and Nal Traditions via the presence of Anjira Ware (DeCardi 1965: 166-68).

Indus Plain Tradition

This area in particular suffers from tne chronological and stratigraphical problems mentioned earlier. The relationships which existed between the cultural complexes commonly known as Amri, Kot Diji, Sothi and the Mature Harappan have been an increasing point of discussion and debate (see Mughal 1970, 1973; Gupta 1972). These discussions center on whether the first three culture complexes form: (1) early cultural developments unrelated to the Mature Harappan; (2) contemporary but distinct cultural developments from the Mature Harappan; or (3) constitute an Early Harappan phase of development. Mughal has argued rather convincingly for the last interpretation (3) on the basis of similarities in the *total* cultural assemblage. However, these problems are somewhat tangential to this discussion, and its doubtful that the Said Qala Tepe material will provide any insights to these issues. At the same time, the Amri and Gumla (which demonstrates relationships with Kot Diji and Sothi) pottery found at Said Qala Tepe indicate that some interaction was present.

Since the focus of this discussion is on the delineation of different ceramic traditions, all four cultural distinction have been retained here (Amri, Kot Diji, Sothi and Harappan). Mughal has rightly pointed out that there are basic similarities in vessel forms and design elements which can be found in the pottery of all four traditions. Concurrently, there are stylistic distinctions which exist between all four (see Mughal 1970: 58-124 for discussion), and these distinctions will be focused on here.

Amri

The distinctiveness of this ceramic tradition was first noted by Majumbar (1934) in his initial excavations at Amri; and refined by the recent work of Casal (1964). In general, this ceramic tradition is found mainly in a small area west of the lower Indus, where the type site of Amri is found. Amrian pottery is distinguished by a rich variety of geometric motifs and vessel forms. Early occupations have handmade pottery (sometimes with a heavy mud-like slip) which is replaced in later occupations by wheelmade. Bowls, globular and elliptical jars are the basic forms, with dish-on-stand and carinated bowls occurring in the later occupations.

The most distinguishing feature of Amri pottery is the geometric bichrome decorations. Decorations are usually restricted to the upper half of the vessel, and executed in brown, or red, and black colors on a buff slip or red wash. Motifs become increasingly elaborate, and in the final Amri phases are found: concentric rows of loops ("fish-scale"); intersecting circles; intersecting circles hatched and seperated by diamonds filled with checker-board motifs; and, paneled areas filled with sigmas. Also in the later phases, bands of ochre-yellow and plum-red would be added to produce a polychrome effect.

Kot Diji

Khan's (1965) original analysis has been reworked by Mughal (1970: 59-81), which forms the basis for this brief discussion. The type site is located near Mohenjo—daro on the east bank of the Indus. Several varieties of vessel forms are found, among which are: simple and carinated bowls; elliptical jars; globular jars with very short rims; wide-shouldered jars with short rims; and dish-on-stand. This essentially red ware occurs with red slipped surfaces, but red washed and untreated surfaces are commonly found. In contrast to the Amri tradition, the most common motif of Kot Diji is notable for its simplicity. The most common decoration consists of a wide brown or black band around the rim and short neck of the vessel. Occassionally, this band is framed with a wavey line, or accompanied by another band. Later, in the Kot Dijian occupations, more elaborate motifs occur, such as: intersecting circles; concentric rows of loops ("fish-scale"); diamond motifs; and, the famous "Horned Diety" motif. Perhaps the most common type of Kot Dijian vessel is a globular jar with a very short neck decorated by a broad horizontal band around the rim. At some sites, the lower portion of the vessel is fluted.

Sothi

The distribution of this ceramic tradition appears mainly in the north and eastern areas of what Mughal has defined as the Greater Indus Valley. Related pottery has been found as far south as Jalilpur (Mughal 1972, 1974) and Gumla (Dani 1970-71) in the west. The most extensive sample of this tradition comes from the lower levels at Kilibangan (*Indian Archaeological Review* 1961-62: 39-44, 1962-63: 20-31, 1963-64: 30-9 1967-68- 42-5). Six different" fabrics" for this tradition have been defined, but there is considerable overlap. The pottery is wheelmade, and tends to have a paste light-red in color. Vessel surfaces are generally unslipped, or have the lower portions coated with a sandy-slip (often painted black with secondary use of white), sometimes accompanied with a red slip on the upper portions of the vessel. Vessel forms include: ring-based bowls; disc or pedestal based bowls; dish-on-stands; narrow rimmed globular jars; and, globular jars with collared or short verticle necked rims.

Incised decoration occurs on the interior of bowls. This usually consists of parallel horizontal bands, which may have additional motifs incised over them. Painted motifs are black or bown with a secondary use of white. Motifs are predominantly geometric and floral, with zoomorphic motifs occurring in the last occupations. Many jars are characterized by a broad horizontal black or brown band around the neck. Geometric motifs include: semi-circles; crosses; crossed and parallel lines; and, concentric bands of horizontal loops ("fish-scale"). Various floral motifs may be identified, including "pipal" leaves executed in a buchranian style reminiscent of the "Horned Diety" motif. Goats, ibexs and various birds and insects compose the zoomorphic motifs.

Harappan

This very complex ceramic tradition has been described in detail in all summaries of South Asian archaeology (e. g. Allchin and Allchin 1968; Fairservis 1971). The pottery is wheelmade, and has a red paste. In general, the pottery represents a high level development of the potter's craft. Vessel forms incorporate all those listed for the Amri, Kot Diji and Sothi traditions, with the exception of the globular jar with a very short rim. A new diagnostic form is a tall cylindrical jar which has a perforated body. Vessel surfaces may be unslipped or slipped with a bright red color. Less commonly found are collared jars with an unslipped flutted surface, or coated with a sandy slip with simple "incised" geometric motifs. Motifs are almost always done in black on a red slip, and have been described by Wheeler as follows:

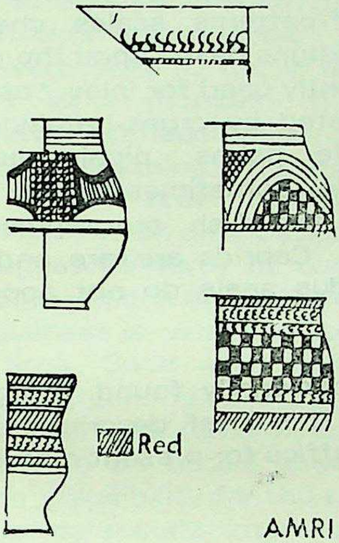


Fig. 36 a

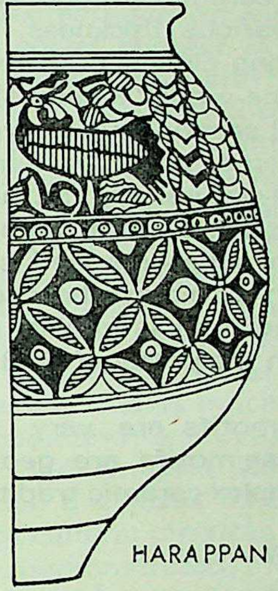
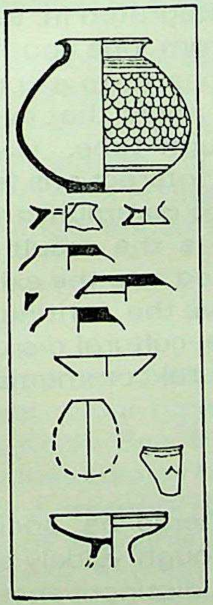
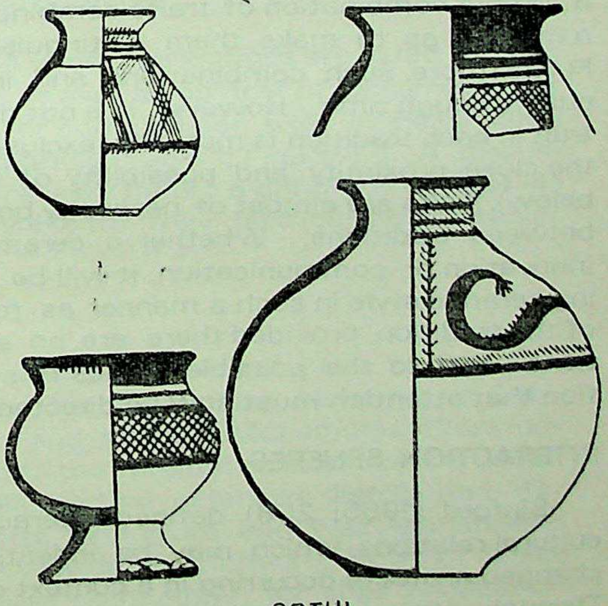


Fig 36 b



KOT DIJI

Fig. 36c



SOTHI

Fig. 36d

> The commonest and simplest type consists of horizontal lines of various thickness. More pictorial motifs include intersecting circles or derivative leaf-patterns, scales, chequers, lattice-work, "kidney-shaped" designs based upon the conch-shell sections which were frequently used for inlay, "comb"—patterns, wave patterns variegated by cross-hatching, and semi-naturalistic forms, notable palms, pipal-trees and rosette-like flora units. Peacocks sometimes appear singly or in super-imposed series . . . . and fish are represented, often with cross-hatched bodies. Caprids are rare, and most of the animals familiar on the Indus seals do not appear at all on the pottery (1968: 95).

Human motifs are very rare. Occasionally found integrated with these motifs are geometrics. This brief description for a very complex ceramic tradition will suffice for present discussion.

Summary

These traditions comprise the distinctive ceramic stylistic zones which are important for understanding Baluchistan. Such ceramic traditions, as pointed out by Binford (1965), represent a distinct combination of traits combined and integrated in such a manner as to make them distinguishable from one another. Furthermore, such combinations and integrations form a continuity through time. However, it is not meant to imply that every trait in each tradition is mutually exclusive through time. Given the close proximity and possibility of cultural interactions (see below), traits are almost of necessity bound to be communicated between traditions. Whether a ceramic trait is the result of innovation or communication, it will be integrated into the existing ceramic style in such a manner as to preserve the continuity of the tradition, provided there are no extensive cultural disruptions. It is to the possible modes of such cultural communication that attention must now be directed.

INTERACTION SPHERES

Binford (1965: 208) defined interaction spheres as socio-cultural relations, which may be indentified through widely exchanged artifacts occurring in a context of social distinctiveness. Through such relationships the cultures involved maintain avenues of communication. There are two main aspects of interaction spheres: (1) the presence of artifacts having wide distributions, and (2) the definition of a social context in which such artifacts are generally found. Caldwell (1964) and Binford (1965) were able to apply this concept to artifacts occurring primarily in a mortuary context—Hopewell. The limits of the present archaeological data for Baluchistan preclude the definition of anything as specific as a "Hopewellian interaction sphere" for that area. However, there are distinctive artifacts which have a wide distribution throughout Baluchistan, thereby indicating some form of communication between the various geographic regions and cultural traditions. Any context of social distinctiveness is, with the exception of figurines, rather vague at this time. Such vagueness can be attributed as much to the nature of archaeological excavations (*Sondage* and survey), and their limited objectives (ceramic sequences, C-14 samples, and trait origins), as to an actual absence of such a context. Therefore, while the plausibility for the existence of cultural matrices which maintain intersocietal interaction can be demonstrated, the exact means by which it was institutionalized remains, at this time, a matter of conjecture.

Artifacts with Extensive Distributions

Distinctive artifacts with wide distributions are listed in Table I. The presence or absence, as well as context of occurrence for the artifact type, is plotted for some major sites in Baluchistan and immediate surrounding areas (Table 1; Figure 37). A discussion of these artifacts is necessary before a definition of possible interaction spheres responsible for their distribution is attempted.

Ceramics

There are two ceramic categories which have wide distributions. Four types, Quetta Wet Ware, Fiaz Mohammad Grayware, Kechi Beg Bichrome, and Kili Gul Mohammad Black-on-red, classified as belonging to the "limited function or intrusive" ceramic category (Chapter III), had an extensive distribution throughout Baluchistan. Quetta Wet Ware and Fiaz Mohammad Grayware had an especially wide distribution. Both of these pottery types require special technology for their production (for grayware see Tosi 1969: 315; wet ware see Fairservis 1956: 268-270), which are not related to the usual techniques involved

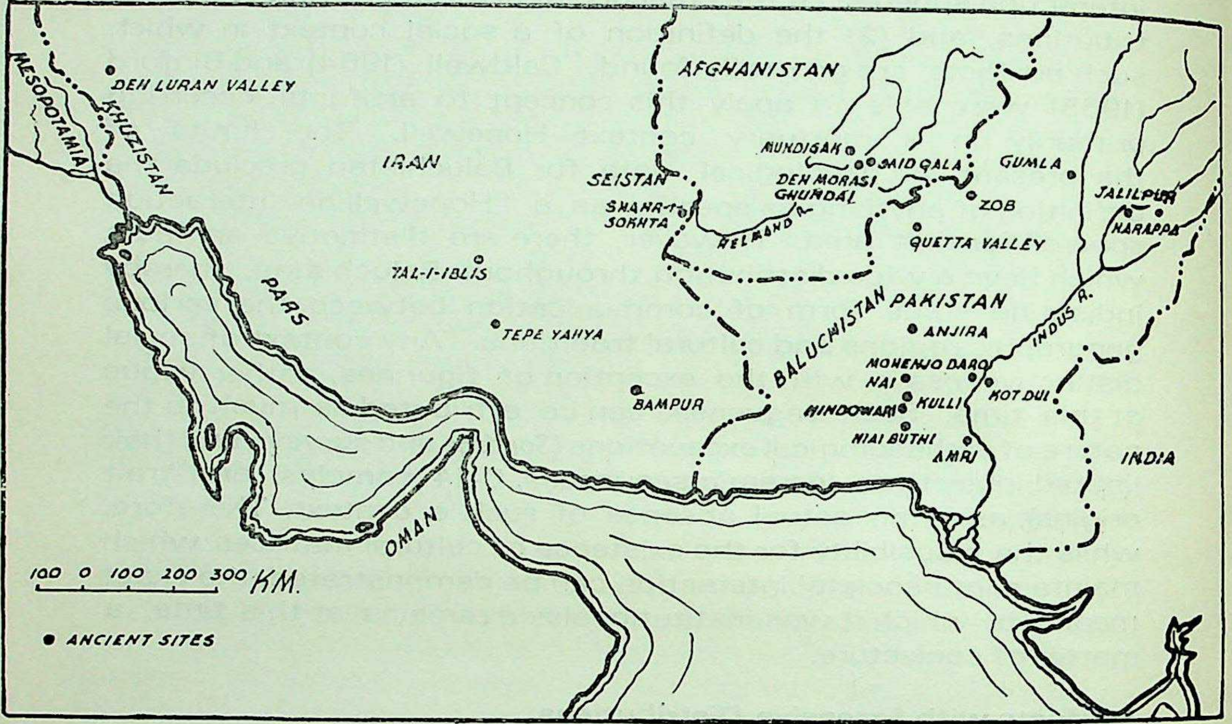

MESOPOTAMIA
KHUZISTAN
DEH LURAN VALLEY
IRAN
AFGHANISTAN
MUNDIGAK
SAID QALA
DEH MORASI GHUNDAI
GUMLA
JALILPUR
HARAPPA
SEISTAN
SHAHR-I-SOKHTA
HELMAND R.
ZOB
QUETTA VALLEY
TAL-I-IBLIS
FARS
BALUCHISTAN
PAKISTAN
ANJIRA
INDUS R.
TEPE YAHYA
MOHENJO DARO
NAI
KULLI
KOT DUI
BAMPUR
HINDOWARI
NIAI BUTHI
AMRI
INDIA
OMAN
100 0 100 200 300 KM.
● ANCIENT SITES

Fig. 37

in manufacture of indigenous ceramics. The wide distribution, and special technology associated with these types, might indicate a special status attributed to them not only as items of limited function, but perhaps also as exchange items. The other ceramic category is that of definitely intrusive types. These are types identifiable as belonging to one tradition, but having a provenience in a foreign tradition. To date, pottery of the Quetta, Nal, Sothi and Amri Traditions have been so identified. The pattern of occurrence for this intrusive category is somewhat sporadic; however, the identification of Nal and Amri pottery as far west as Tepe Yahya testifies to its extensiveness.

Metal Artifacts

Metal artifacts, or indicators of their use, were located at most major sites. After the third millennium, their frequency and variety increase throughout the area. However, the relative frequent occurrence of metal artifacts at Mundigak III, Nal, Tepe Yahya, and Said Qala Tepe is indicative of widespread knowledge about metallurgy during this period (see Lamberg-Karlovsky 1967). Among the artifacts several stylistic similarities may be noted, especially the double volute head and twisted body motifs found on pins (Casal 1961: Fig. 139, nos. 4, 7; Shaffer 1971a: 126, Fig. 43, nos. b, Fig. 44).

Steatite Artifacts

Objects manufactured from steatite with a wide distribution in Baluchistan during the Period under discussion appear limited mainly to compartmented seals. Outside of the Sarawan Region, such seals seem to have a sporadic occurrence. At Mundigak, Said Qala Tepe, and Shahr-i Sokhta, compartmented seals had a very high frequency. This unbalanced frequency of occurrence in Baluchistan has two possible explanations: (1) limited sampling at other sites, or (2) a distributional limitation to the Sarawan Region. In later periods, on the other hand, distribution of steatite artifacts is quite extensive. Carved steatite bowls are found throughout the Middle East from Mesopotamia to the Indus River Valley (Durrani 1964) to such an extent that Lamberg-Karlovsky (1970: 66; Lamberg-Karlovsky and Tosi 1973) has proposed the existence of an ''international trade'' based on this material.

Shell Artifacts

The distribution of shell artifacts, or raw material as the case may be, has only recently received recognition as an important cultural phenomenon (Lamberg-Karlovsky 1970: 66; DeCardi 1970: 333-334). Shell bangles, rings, beads, and pendants are found widely distributed throughout the entire Middle East from an early date. The importance of this distribution is realized only when it is known that many of the shells utilized in the manufacture of these artifacts are of Indian Ocean or Persian Gulf origin. For example, as early as 4500 B. C., beads of an Indian Ocean species were identified as far inland as Tal-i-Iblis (Caldwell 1967: 408). The fine craftsmanship demonstrated in the production of pig and snake pendants at Tepe Yahya Period VB (Lamberg-Karlovsky 1970: 95, 109)—ca. 3500 B.C.—indicates that shell as a medium of artistic expression was highly regarded as early as the fourth and possibly fifth millennium.

Precious Stone Artifacts

As the term is used here, precious stone refers to lapis lazuli, carnelian, rock crystal, and turquoise. Such stones usually occur in the form of beads and pendants. Artifacts manufactured from these stones have a distribution encompassing the entire expanse of area between the Indus and Nile Valley. The tremendous distribution, coupled with the fact that most of these stones have limited areas of origin, indicates that they were an important medium of exchange.

Lapis lazuli has its *primary* source in Badakhshan in northeastern Afghanistan (other known minor sources are Chinese Central Asia and Peru). While more than one source of turquoise is known, the major ones utilized in prehistoric and protohistoric periods were in the Sinai, eastern Iran, and Soviet Central Asia (see Tosi 1974). The extent of lapis lazuli trade has been traced by Herrmann (1968) from its earliest occurrence up through the first millennium. In this study, Herrmann concluded that all lapis lazuli found in the Near and Middle East had come from Badakhshan, and traced possible trade routes for its conveyance to the West. The extent and antiquity of such trading networks is indicated by the location of a turquoise bead in the Ali Kosh phase of the Zagros (Hole, Flannery and Neely 1969: 242), dating ca. 6000 B. C., and another of lapis lazuli at Sailk III (Mallowan 1970: 454), dating ca. 4000 B.C.. Lapis lazuli is reported in limited quantities from Mundigak I-IV, and it is located at many sites in Baluchistan. Turquoise, although present at some sites, did not seem to have the same extensive distribution in Baluchistan as it did in the West. The extensive finds of lapis lazuli artifacts and wasters at Shahr-i Sokhta (Tosi 1969: 374) have been interpreted as indicating that this site might heve been a center for its distribution and manufacture.

The source of rock crystal and carnelian are not as well known as those of lapis lazuli and turquoise. Despite this fact, they are classified in this category because of their relative scarcity. Alabaster can be located at almost all sites in Baluchistan It has not been included in the precious stone category because its frequency of natural occurrence and locations of sources are too imperfectly known at present.

Ceramic Figurines

Zoomorphic (caprids and bovines) and anthropomorphic (primarily females) figurines have been located throughout Baluchistan, eastern Iran, Turkmenistan. and the Indus Valley. Not only do they have a wide distribution, but they also appear in the earliest post-Paleolithic contexts. Of all the artifacts with extensive distributions, only these figurines have been located in limited proveniences having possible social distinctiveness.

At Deh Morasi Ghundai, in Morasi IIA, Dupree (1963: 81-82) excavated what he designated a ''household shrine'';

> . . . a complex of fire-burned, charcoal-flaked sun-dried bricks, rocks (including a utilized magnetite nodule . . .), pottery, pottery figurine, copper tube and seal, and bone and horn . . . Remnants of a pise floor underlay the complex . . . [Dupree 1963: 81].

In support of his interpretation, Dupree (1963: 116) established parallels to a similar shrine complex depicted on seals found at Tepe Gawra (Iran) (Tobler 1950: 183, Plates 89d, 163, Plate 82) of the Middle Gawra Period– ca, 3400-3300 B. C.. One seal depicts a drinking scene, with a male and female drinking through tubes from a vessel. The other seal depicts a horned altar similar to that found in Morasi IIA. In addition, an altar complex found under a wall of the Stratum XI Temple is similar to that of Morasi IIA.

When Stein (1931: 156-163) excavated a cremation area at Mehi, he found several figurines (female and bovine) within the area of excavation. Because the site had been so badly disturbed, a direct association of the figurines with the cremations was not possible. Figurines were found in association with a mud brick building equipped with drains, and partially constructed from fired bricks at Dabar Kot (Stein 1929: 59-60). Large quantities of figurines were found at Nindowari (Casal 1966: 18-19). The exact meaning of figurines at Nindowari will depend upon substantiation of Casal's interpretation for the site. At present, he has failed to locate any habitation complexes, and considers the site to have had a limited function-that of a religious center. However, it must be stressed that the overwhelming majority of figurines were located in fill within and without structures, and thereby do *not* have any definite context of social distinctiveness. Figurines, especially anthropomorphic ones, demonstrate stylistic continuities and differences within regions of Baluchistan. Another *potentially* important characteristic of these figurines is the possibility that they were manufactured from a local paste. Although at this time local manufacture is conjecture (no specific studies have been conducted along this line of inquiry), it seems a reasonable hypothesis in the absence of any reported paste differential between the figurines and local indigenous ceramics.

The social distinctiveness of these figurines in Baluchistan has not been satisfactorily established. A more definitive context for the female figurines has been found in Turkmenistan. The most recent, and extensive, discussion of these figurines is by Masson and Sarianidi (1972). An extensive collection of figurines, especially female, extending back in time to the fifth millennium, and associated with the early periods at Djeitun, Namazga and Geoksyur, have been found. At Geoksyur, 100 female figurine fragments were found in a Namazaga II context. The *stylistic* appearance of one of these figurines compelled Masson and Sarianidi to conclude:

> The artist undoubtedly sought to convey the image of a fertile woman; the mother goddess [1972: 69-70].

During Namazaga III (ca. 3000-2500 B. C.) at Kara-depe, a sherd was found which depicted;

> . . . two human figurines flanking an anthropomorphic deity which is a precise copy of the terracotta figurines discovered here [1972: 77].

Another figurine was in direct association with a grave. Several hundred figurines were located at the Geoksyur complex of sites. Many of the zoomorphic figurines were located in a provenience which suggested they had been placed *into* mud brick walls as the walls were being constructed (1972: 88). The Geoksyur findings led Masson and Sarianidi to conclude that:

> . . . anthropomorphic statuettes were not toys, but had some important cult meaning. This is indicated by the presence of an established canonical type of figurine with the emphasis on female sexual attributes: even the most schematically modelled examples had a triangle scratched out below the stomach. Their cult significance is clearly indicated by the recovery of figurines of this type from many burials at Kara-depe and Geoksyur [1972: 88-89].

In the Early Bronze Age (Namazga IV—2500-2000 B. C.) at Altin-depe were found figurines "analogous" to the Zhob figurines of

Baluchistan, as well as other objects of public worship (1972: 108-109).

A detailed analytical study of the figurines located at Altin-depe (1972: 128-136) revealed a hitherto totally unsuspected dimension of these anthropomorphic figurines (non-Zhob types). Many female figurines were flat, with only the frontal characteristics filled in. On these figurines, found in various locations, were incised symbols, some of which refer to their sexual attributes, while others are interpreted as magical symbols. A detailed analysis found that these "magical symbols" were not random motifs. Figurines with identical symbols were found equally distributed throughout the entire settlement of Altin-depe. Masson and Sarianidi (1972: 135) hypothesized that these non-random symbols are representative of various gods or female spirits represented by the figurine. For example, the star symbol might indicate the god of the heavens, such as Inanna of Sumer. Some stylistic differences in the figurines were found to correlate with mutually exclusive symbols—ones with the triangle and cilia symbol always had a heavy plate extending down to the waist. Masson and Sarianidi suggested that:

> . . .the signs on the figurines comprise a set of religious symbols which may have influenced the formation of a pictographic writing, but did not themselves make up a writing system [1972: 136].

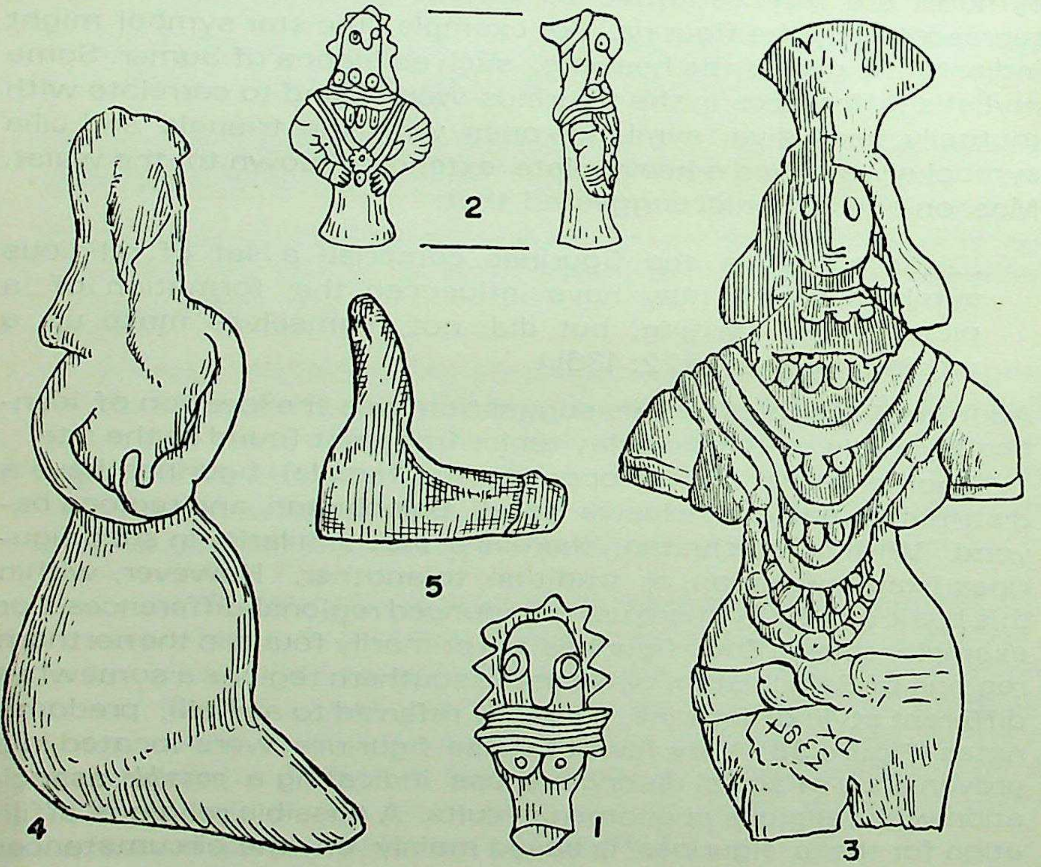
Additional support for this suggestion was the location of identical symbols on a baked clay tablet fragment found at the site.

Zoomorphic and anthropomorphic (female) figurines have a distribution pattern inclusive of all Baluchistan and regions beyond. Within Baluchistan, there is a *basic* similarity in such figurines from one region, or tradition, to another. However, within this basic similarity,there are pronounced regional differences. For example, classic Zhob figurines are primarily found in the northern regions of Baluchistan, while in the southern regions a somewhat different style of figurine, generally referred to as Kulli, predominates (Figure 38). Very few of these figurines were located in a provenience of social distinctiveness indicating a *possible* association with religious phenomena—cults. A possible religious affiliation for these figurines is based mainly on the circumstances surrounding similar figurines located in Turkmenistan. Furthermore, it has been *hypothesized* here that these Baluchistan figurines were manufactured locally and were not imported items.

The foregoing discussion and table presented those artifacts which were found to have a wide distribution in Baluchistan. Almost all of these artifacts—ceramics, metal, steatite, shell, and precious stones—were not found in any context of social distinctiveness. Only a very few ceramic, female figurines, were located in proveniences indicating possible social distinctiveness, and those were religious ones. It is now necessary to examine modes of communication, or interaction, which can explain such artifact distribution.

Trade as an Interaction Sphere

Trade has always been an important aspect for the study of community interactions due to its dual status (Renfrew 1969: 151). The first such status is that presence of trade goods are in



STYLES OF FEMALE FIGURINES

1. Zhob *2. Kulli* *3. Harappan* *4. Gulma III* *5. Jalilpur*

Fig. 38

themselves indicators of intercultural contact. Secondly, trade is a "prime motive" for such contacts initially. However, to say that trade existed and/or was the *raison d'etre* for intercultural contact is not a sufficient explanation. The type(s) of trade responsible for the contact must be delineated before a true comprehension of cultural interaction can be obtained.

Types of Trade

In most prehistoric non-urban communities, it is a good probability that professionalized trade and commerce were absent. Because of this fact trade will be understood here as:

> . . . reciprocal traffic, exchange, or movement of materials or goods through peaceful human energy [Renfrew 1969: 152].

However, particularly in larger settlements, the specialized trader who obtained a living from promotion of exchanges cannot be totally discounted.

A good example of this non-professionalized trade can still be observed in the modern Afghan village of Aq Kapruk studied by Dupree (1970: 374-375). In the Aq Kapruk bazaar, there were 111 shops of which only 46 were open for business every day. Of these 46 shops, only 20 provided imported goods (general stores and cloth), while the other 26 were concerned with providing services (e. g , teahouses) or redistribution of locally produced goods (mainly foodstuffs). Over half the bazaar shopkeepers were only part-time, and opened their stores only for bazaar days. Part-time shopkeepers were primarily farmers. Furthermore, Dupree maintains that all shopkeepers, full or part-time, owned land. Much of the luxury goods (beads, jewelry, mirrors, shoes, etc.) are brought to the bazaar, or a near-by bazaar, by nomads on their regular migratory routes, and only infrequently by specialized nomadic traders. Luxury goods were traded by nomads to shopkeepers for cereals, melons, and other surplus products of the farms. Besides luxury goods, nomads often traded their excess surpluses from the flocks—milk products, wool, animals, etc.

Harding (1967) recently conducted a study of non-professionalized trading networks in New Guinea which seems particularly applicable to the situation (see Wright 1969 for similar application). Two types of trading networks (Harding 1967: 14-19) were identified as providing intercultural connections: (1) a long distance trade, and (2) a short distance, or local, trade.

Long distance trade is that involved with raw materials having limited sources of origin, or with products which for reason of style, skill, or other factors are more economically produced locally and traded out. This type of trade has to be modified somewhat for utilization in a prehistoric context. The rarity of trade in products where manufacturing skill was the primary impetus for trade has resulted in the condition that :

> . . . prehistoric trade objects are to be recognized by their material more often than by their style [Renfrew 1969: 154].

Therefore, long distance trade, as it will be used here, refers to trafficking in raw materials of limited sources of origin. The second type of trade was a local trade concerned primarily with the exchange of locally produced products (foodstuffs or crafts) probably between kinsmen or near kinsmen. Although local trade is of more basic importance to group maintenance (Wright 1969: 3), it is generally the long distance trade which has concerned archaeologists (Clark 1952: 241-281).

Local and long distance trade differ not only in the products exchanged, but also in frequency, urgency, organization, and cultural meaning. Objects involved in long distance trade are items greatly esteemed, quite aside from any utility value they possess. These objects constitute the highest category of wealth, or "important wealth," as Harding refers to it. Such items are important because:

> . . . they form the currency of important social ritual [Harding 1967: 248].

Important social rituals include: birth, marriage, legal sanctions, religious rituals, and death. Long distance trade objects would function as bridewealth, compensation/indemnification payments, and as offerings in religious rituals of pre-/posthumous nature.

Social rituals generally involved prominent individuals—leaders—of the social group, who functioned as bankers or sponsers involving wealth objects. This action has a self-reinforcing effect:

> Their pre-eminent role in determining the circulation of wealth objects connected with social ritual symbolizes as it helps to create and sustain their political status [Harding 1967: 248].

If the community at large, or the individual leader concerned, has an interest in promoting or maintaining such status, then trade, via the political factor, acts as a stimulus to the overall efficiency of local economic life (Harding 1967: 249; Shalins 1960).

Leaders usually obtained their status within the local group by means of ability (charisma) and/or kinship. To obtain leadership by ability, the individual has to offer the group exceptional services, goods, or both, especially during times of crisis. The extent to which a leader can maintain his status is dependent upon his personal ability and the number, or types, of supporters obligated to him. Because of their functioning as currency in important social rituals, "important wealth objects" are efficient means of creating obligations :

> The bestowal of wealth objects allows the leader to expand his base of support both by recruiting new supporters and by intensifying the obligations—indebtedness—of existing followers [Harding 1967: 249].

It is postulated here that objects of long distance trade are involved in establishing status, via important social rituals, and the creation of obligations.

In contrast, objects involved in local trade are concerned with locally produced items, often related to subsistence and maintenance of primary social relationships. Local trade is not, however, totally independent of circumstances surrounding leadership status. Indeed, one of the most pertinent services provided by a leader would be the sustaining of such local trade, especially in times of crisis, to insure the survival of the social group and therefore his own social role(s). With these considerations, an examination of the plausibility of such types of trade existing in prehistoric Baluchistan is attempted below.

Trade Interaction Spheres of Baluchistan

A necessary condition for definition of an interaction sphere is presence of a context arguing for social distinctiveness (Binford 1965: 208). Of all the artifacts having an extensive distribution throughout Baluchistan, only a few of the ceramic female, figurines have been convincingly identified in such a context. For the other artifacts—ceramics, shell, steatite, metal, and precious stones—the only context of social distinctiveness so far identified is their possible association with the Nal and Mehi cemeteries. To date, these artifacts have been associated primarily with a context of non-social distinctiveness. This does not, however, eliminate them from being classified as a category of artifacts which represent cultural matrices providing for intersocietal interaction. Such a classification is justifiable on the basis that, with the exception of ceramics, all are manufactured from materials with limited sources of origin. Therefore, their appearance beyond the source areas must be attributed to existence of a cultural matrix which provides for such an extensive distribution, as is recorded in Baluchistan and elsewhere. Trading networks are here hypothesized as being those institutionalized cultural matrices responsible for trade distribution.

Trade, in essence, implies exchange and the realization that by production of surpluses in excess of personal needs, an individual may obtain goods that he desires. Renfrew has aptly summarized the role of trade as an institutionalized matrix of cultural interaction and communication:

> The distribution of goods implies agreement between the producer and the recipient, and consequently a whole field of social contacts and organizations. Such contacts bring with them the opportunity for the exchange of ideas, and the acquisition of new techniques and beliefs [Renfrew 1972: 440].

Trade serves not only as a motivating link between indigenous activities connected with the production of surplus, but also as an open network of communication between cultures and regions for the flow of ideas. To articulate the trading matrices operating in prehistoric Baluchistan, a bimodal model designed after that by Harding (for similar archaeological model see Renfrew 1972: 440-475) is applied here.

Long Distance Trading Spheres

This trading matrix is involved in distribution of raw materials having a limited source of origin, namely, precious stones, steatite, shells, and mineral ores (metal for artifacts). Examination of known source areas reflects the extensive areal range of this matrix.

Among precious stones, the sources of carnelian and rock crystal are unknown. Sources for lapis lazuli and turquoise are known and, more importantly, restricted in distribution. Lapis lazuli is quarried only in northeast Afghanistan, and the major sources for turquoise are in the Sinai, eastern Iran, and Soviet Central Asia. Artifacts manufactured from shell are all made from species originating in the Persian Gulf of Oman, and along the Mekran Coast. Again the exact sources of steatite are somewhat vague (neutron activation studies have only recently been undertaken); however, the delineation of a major manufacturing center at Tepe Yahya may well indicate that at least one source is found in southeastern Iran. Mineral ores for the manufacture of metal—bronze—artifacts presents a very interesting problem. Most of the artifacts discussed here have been bronze—a combination of copper with tin or some other metal. While extensive deposits of copper are known throughout Afghanistan and Baluchistan (Lamberg-Karlovsky 1967: 149), tin is virtually unknown. Tin deposits are located in: Hazaribagh District, India; Kara Dagh in northwestern Iran; Luristan and Khuzistan in southern Iran; along the coast of Trucial Oman; and, a very small deposit in southwestern Afghanistan. Since trade for finished metal artifacts has been rejected (Lamberg-Karlovsky 1967: 1972b: 225), tin utilized in the manufacture of these bronze artifacts may have been derived from one of these sources.

The above are only the known artifacts involved in the long distance trading sphere. No doubt if perishables were known, the list would be much longer, and the geographical range much more extensive. It was the distribution of these raw materials, originating in regions throughout the eastern Iranian Plateau, that was the concern of the long distance mode of trade. The utility of the artifacts (mostly jewelry) manufactured from these raw materials, with the exception of metal projectile points in later periods, is out of all proportion with the effort expended in their acquisition. The acquisition distance, combined with the non-utilitarian nature of the artifacts manufactured, indicates that these items were what Harding has categorized as "important wealth."

Short Distance Trading Sphere

The short distance trading matrix is concerned with distribution of locally produced products primarily between kinsmen and/or near kinsmen. Objects of distribution are mainly those which are important to the subsistence of the social group, such as foodstuffs. The plausibility of the existence of such a trading sphere in prehistoric Baluchistan is examined below.

At present the archaeological data from Baluchistan makes it difficult to delineate exchanges in food commodities. The extreme regional variation in climatological, hydrological, and geographical situations of the various Baluchistan regions (see

Chapter II) prompted Raikes (1968) to propose that such exchanges were possible if not necessary. Raikes maintains that existing regional conditions make some regions, and areas within regions, more conducive to certain types and/or different times of subsistence exploitation than others. Some regions and/or areas within regions are better suited for agriculture, while others for pastoralism. Likewise, some crops might be region specific, or available at different times between regions. Such a pattern of exploitation would result in exchanges to procure those items not produced or immediately available in the subsistence patterns of the particular social groups involved. In essence, what is proposed here is a situation analogous to that described for this area by Barth (1956) in the ethnographic present. A similar situation has been suggested for the Zagros region of western Iran by Flannery (1965, 1969) based upon archaeological data.

Although the Baluchistan archaeological record does not possess the sophisticated ecological data that was utilized in the analysis done by Flannery, it is felt that there are indicators of such inter-societal interactions on the local level. It is hypothesized that an exchange in such commodities was reflected in the distribution of widely occurring ceramic types found in Baluchistan. These ceramic types include the limited function or intrusive types of Quetta Wet Ware, Fiaz Mohammad Red-on-gray, Kechi Beg Bichromes, and Kili Gul Mohammad Black-on-red, as well as the indigenous types of pottery from each major stylistic tradition which occur outside their region of origin—Quetta, Nal, and Amri. The apparent synchronizations in vessel form changes, and some of the common motifs found throughout Baluchistan's ceramic traditions, might be further indicators of this trading sphere. The well developed and distinctive ceramic traditions located throughout Baluchistan argue for the hypothesis that ceramic objects were available locally in plenitude, and would not probably be a major item of trade. Therefore, the occurrence of ceramic styles outside their region of origin is a secondary result of trade focused on the exchange of other commodities such as foodstuffs.

In summary, then, there are two modes of trading spheres operating in Baluchistan, a long distance trading sphere concerned with the distribution of exotic raw materials over the entire area, and a short distance sphere concerned with products of local production. These spheres include artifacts found to have an extensive distribution throughout Baluchistan, with the single exception of ceramic figurines. Figurines, accepting the hypothesis of local manufacture, like other ceramics, were not then purposely traded over long distances, if they were traded at all. However, they do demonstrate a basic continuity in style and possible context of social distinctiveness which is explainable when put into a context of a separate but interrelated interaction sphere.

Religion as an Interaction Sphere

An extensive functional discussion of religion in prehistoric societies would not be appropriate here. However, the establishment of a few premises is necessary in order to conceptualize religion as a matrix of intersocietal interaction. All known human cultures have created and maintained systems of explanation which make intelligible those forces and events that appear totally beyond man's control. In the physical world, such forces and events would include the sun, moon, seasons, rain, drought, and catastrophes. For the world of the individual, fertility, birth, death illness, and general vicissitudes must be added to those forces seemingly beyond his control. The general, though not universal, method utilized to bring such forces and events within the realm of understanding is to personify or symbolize them as gods, or gifts of gods. Attributing to such forces and events human characteristics provides a frame of reference with which to make such aspects of life explicable. Also such forces and events may be less frightening if they can be related to the experience of others. It is in the extension of this commonality of experience that religion becomes a source of intersocietal interaction.

Religious Interaction Sphere of Baluchistan

The evidence for a religious interaction sphere in Baluchistan is confined primarily to the ceramic, female figurines. The limited number of anthropomorphic figurines with a context of social distinctiveness—one shrine and burials—was discussed above. Besides the provenience of these figurines, there are some other considerations (albeit much more guarded ones) which provide supplementary insights for the possible religious categorization of these figurines.

Among the first to propose such a religious affiliation for these figurines was Piggott. He described these female figurines as :

> . . . a grim embodiment of the mother—goddess who is also the guardian of the dead—an underworld deity concerned

> alike with the corpse and the seed-corn buried beneath the earth [1950: 127].

This interpretation of the figurines by Piggott is probably a derivative of that proposed by Marshall (1931). Marshall located several of these terracotta figurines at Mohenjo-daro. These were interpreted by him as popular representations of the "Great Mother Goddess", with which he drew direct parallels with the ubiquitous cult goddesses of modern India. The "Mother Goddess" interpretation has been widely accepted since then (Allchin and Allchin 1968: 311; Wheeler 1968: 93; Fairservis 1971: 205).

Even more speculative, Dupree (1963: 98) proposed that the figurine found in the Morasi IIA shrine context was a representation of Maha-devi, the wife of Siva. Dowson described this deity as follows :

> As the Sakti or energy of Siva she has two characters, one mild, the other fierce, and it is under the latter that she is usually worshipped . . . . In her milder forms she is *Uma*, "light," and a type of beauty . . . . As *Kali*, "the black," she is represented with a black skin, a hideous and terrible countenance, dripping with blood, encircled with snakes hung round with skulls and human heads, and in all respects resembling a fury rather than a goddess [1953: 86-87].

Several Zhob figurines have been found which have stylistic markings that could be, and have been, interpreted as representing snakes (or hair?) on the back, and necklaces of skulls around the neck.

A religious interpretation of the zoomorphic figurines, mainly bovines, can be less well stated. Several of these figurines appear to definitely have a secular origin (Wheeler 1968: 92; Fairservis 1971:287-289), and may have been simply toys. However, others are so elaborately executed, far beyond that which might by expected of a toy, that some of these figurines could well have been a cult object of some sort. An important factor in such interpretation is the finding of two bull figurines at Damb Sadaat III with symbols *resembling* the Shivite "yoni" (Fairservis 1956 226-227). An association with Sivaism correlates well with the determination of the Zhob figurines as Maha-devi, wife of Siva, but is *very hypothetical*. Also contributing (but highly speculative) to the plausibility of cult significance being attached to bull figurines is the prominent role ascribed to cattle in later Hindu religion

The above extemely speculative factors, when taken into consideration with the context of social distinctiveness in which some female figurines have been found, suggest the possibility of interpreting at least some of these figurines as objects with a religious significance.

Acceptance of a religious interpretation for the figurines, in conjunction with their wide distribution (from Turkmenistan to Indus River Valley), indicates a physical manifestation of a religious phenomenon which encompasses the entirety of Baluchistan and areas beyond. If a religious phenomenon is involved, then the hypothesis that the figurines are of local manufacture acquires crucial importance. Such local manufacture would indicate that the religious phenomena which they represented was indigenous to the provenience of location. In addition, the context of figurine provenience has not indicated any significant status association. The extensive distribution, possible local manufacture, and lack of status association indicate that the religious phenomenon represented by these figurines was practiced on a local level by a very broad segment of the population. The cross-cutting of otherwise distinctive traditions by similar artifacts of possible local manufacture representing religious phenomena is interpreted here as demonstrating that religion provided a distinctive avenue of intersocietal interaction.

Summary

In the above discussion, several cultural items were isolated which had an extensive distribution cross-cutting previously defined Baluchistan cultural traditions. To account for this distribution two major types of intersocietal interaction have been hypothesized. The first was interaction resulting from trade. This trade had two distinctive modes which involved mutually exclusive items. Long distance trade involved trafficking in precious stones, steatite, shell, and mineral ores. A second type of trade, short distance or local trade, was concerned with the distribution of locally produced items primarily of a subsistence nature, but also with local craft items—ceramics. The second source of intersocietal interaction was religion. This religious interaction sphere was reflected in the circumstances surrounding ceramic figurines located throughout Baluchistan. However, to assert that such matrices existed answers nothing. Rather:

> One must attempt to demonstrate how the systems operated, what its consequences were, and the hypothesis must be testable [Wright 1969: 84].

It is the problem of operation and consequences of the hypothesized interaction spheres that now must be discussed.

INTERACTION SPHERE ARTICULATION

Trade and religion are but two interaction spheres of the several which must have existed at any given time. Renfrew (1972: 436) has defined at least six major categories of cultural systems (interaction spheres) with at least 30 different possible interactions among them. The limited archaeological data for Baluchistan prevents duplication of so sophisticated an analysis. Given the two interaction spheres which have been defined, it is possible to examine not only how they were articulated with each other but also with the adaptive area and regional traditions. For these operative aspects the work of Wright (1960); Flannery (1965, 1968, 1969); Hole, Flannery and Neeley (1969); Downs and Ekvall (1965); Harding (1967); and Renfrew (1972) have been heavily drawn upon.

Certainly by the fourth millennium (and probably much earlier), man in Baluchistan was dependent upon exploitation of domesticated plants and animals. The degree to which either category of domesticate—plants or animals—constituted the primary mode of subsistence varied with the social group. Regions, and areas within regions, due to geographical factors, varied in the degree to which they could support the cultivation of domesticated plants. The primary areas suitable for agriculture were located on the immediate flood plains of perennial rivers. The number of such rivers and size of their flood plain varied from region to region. Along these rivers were established villages whose primary subsistence was based on agriculture. As one moved away from these rivers and plains, subsistence possibly shifted from agriculture to pastoralism, in relation to the availability of water and topography. Superimposed upon this pattern is the fact that Baluchistan is affected by two periods of precipitation, one in winter and another in summer. Areas between river flood plains are semi-arid and elevated.

This dual pattern of subsistence exploitation, agriculture and pastoralism, allowed for maximum efficient utilization of available resources. Within any single region, the surpluses resulting from this dual subsistence pattern would have been at least partially mutually exclusive, and therefore would have promoted interation between the social groups practicing them to obtain these surpluses (see Barth 1956). The environmenial fluctuations of Baluchistan, both predictable and unpredictable, would have encouraged such surplus exchanges, not only within a region but also between regions. It was this latter exchange between regions that constituted the short distance trade interaction sphere—the exchange of locally produced goods between social groups concerned primarily with subsistence. This short distance trade was reflected in the distribution of pottery from the various traditions beyond their zone of origin.

Renfrew (1972: 463-471) has constructed four models for describing the operation of trading matrices. Unfortunately, the circumstances of short distance trade in Baluchistan prevent their application. Assuming that the pottery is reflective of a traffic in perishables, the characteristics of its occurrence are important indicators as to how this matrix operated. The pottery types involved all occur in very low, sporadic frequencies. Although at present examples of this situation are few, one can refer to Nal type pottery which occurs at Tepe Yahya and Said Qala Tepe but not at Morasi, Amri, or Bampur. Another is Amri pottery, which was found at Said Qala Tepe, but not at Anjira, Zhob, or Bampur. This low frequency and sporadic occurence argues against the operation of organized trading expeditions. It is hypothesized here that this pattern of ceramic occurrence reflects the operational maintenance of the short distance trading sphere by full or part-time pastoralists who occupied areas surrounding agriculturalists.

It has already been suggested that the pastoralists and agriculturalists were reciprocal market sources for the exchange of mutually exclusive surpluses. Such exchange patterns have been documented several times in ethnographic literature (Barth 1956; Dupree 1970). During these exchanges with agriculturalists, pastoralists would have inevitably acquired specimens of these settlements' major local craft—pottery. It is quite likely that pottery was one of the desired items in some exchanges, since even today pastoralists trade for containers. Therefore, the distribution of a ceramic tradition would include not only the village, but also the pastoralists with whom they interacted.

Pastoralists could not have remained indefinitely in any one area. Climatic conditions alone would force some movement from region to region A much more important impetus to such movement would have been the consumption of available pasturage. Sheep and goats bite fodder off close to ground level, and a small flock can quickly denude a hillside. Climate and pasturage conditions would force the periodic movement of pastoral social groups from region to region. Their mobile subsistence base would not have prevented such movement. Needed products, which they did not produce themselves, could be obtained by the exchange of their surpluses with agricultural settlements in other regions. Movement from region to region would bring them eventually into contact with at least more than one tradition, and if the movement of modern nomads is any indication, it would have placed them in contact with almost all of the cultural traditions. The movements and surpluses, or for that matter shortages, necessitated by a pastoral subsistence pattern placed these social groups in the position of "middle men" for the short distance trading sphere. Pastoralists were the *modus operandi* for the matrix of intersocietal interaction represented by this interaction sphere.

In addition to the short distance trading sphere, there was delineated a long distance trading sphere which provided a matrix connecting all regions of Baluchistan. Unlike the short distance sphere, this one was concerned with the distribution of non-locally produced goods. These are objects with a limited area of origin which are considered "important wealth" items because of the distance involved in their procurment and their possible association with social rituals. Necessary for the operation of this sphere are three categories of participants: (1) procurer/carrier, (2) craftsman, and (3) consumer.

As stated earlier, it is not felt that a category of full time merchant is applicable to the situation, for at least the earlier phases. Downs and Ekvall (1965: 173) have described how trade is conducted in a culture without utilizing such merchants. The primary procurers of goods located in a limited source area were nomads who obtained such materials on their seasonal migrations. Other procurement sources were organized expeditions by villages, monasteries, and nobility. There is, at present, no supportive evidence for the contention that organized expeditions were being conducted in Baluchistan. However, there are circumstances which might support a hygothesis that such trade was being conducted by pastoral social groups.

In some instances, it might be argued that procurement and transportation of a commodity were conducted by two separate categories of individuals. A separate identity of procurer might well have been possible where the desired commodity was available throughout the year—shell, mineral ore, steatite. The occurrence of a cottage smelting industry at Tal-i-Iblis (Caldwell 1967), and extensive steatite workings at Tepe Yahya (Lamberg-Karlovsky 1970), are suggestive of separate procurers. However, in cases such as lapis lazuli, where the material can only be obtained with difficulty and for a limited time (Herrmann 1968: 24), it would seem that procurer and carrier were one and the same. Be that as it may, the procurer/carrier had to have certain knowledge in order to function efficiently. He had to know where, and how, to obtain the material in question, and the means of transport to and knowledge of points of consumption.

It is postulated here that during the third millennium in Baluchistan, the primary procurer/carrier of raw materials in long distance trade was the pastoralist. The seasonal migrations of pastoralists would have given them knowledge of points of consumption, as well as possible sources of supply. Their knowledge of routes and their flocks would have given them means of efficient transport for such commodities (sheep can pack up to 30 pounds and require little attention—Downs and Ekvall 1965: 173). Such factors combine to give pastoralists a definite advantage to function as the procurer/carrier in long distance trade.

Existence of craftsmen is more a matter of inference than actual proof, due to the nature of the archaeological record The presence of craftsmen for the third millennium is attested to by the extensive steatite industry at Tepe Yahya (Lamberg-Karlovsky 1970), and the location of a gem cutter's hoard at Shahr-i Sokhta (Tosi 1969). Since, as Renfrew (1969: 154) has noted, evidence for trade where manufacturing skill was the dominating motive is rare, it is reasonable to conclude that most of these social groups had access to at least a *part-time* local craftsman.

By consuming objects of long distance trade the individual is acquiring items of "important wealth." The value of such items is not to be found in their utility, but in their scarcity and role as the currency of social rituals. Since every social group member is involved in social rituals throughout his life, the consumer base for items of long distance trade would encompass the entire population. The intensity to which an individual accumulates "important wealth", beyond that necessary to meet the minimum requirements of rituals required by the social group, will vary with two factors: (1) the individual's ability in basic production of tradeable commodities, and (2) his desire for security against scarcity.

The need for security against scarcity has been pointed out by Flannery (1969: 95), who noted that there is nothing "more stable" or "more reliable" about an adapation based upon domesticates. The environmental characteristics of Baluchistan, both predictable and unpredictable, would operate to highlight the instability aspect of adaptation to domesticates. The broad based consumer demand for, and the scarcity of, objects involved in long distance trade promoted them as a source of security—something which could be converted into subsistence products if necessary. Objects of long distance trade, then, had two functions in the social group: (1) as currency in social ritual, and (2) as a source of security against times of need. These functions were mutually reinforcing, that is, important social rituals would be expressed in objects of important value, and there were few objects more valuable than those which can insure existence in times of need. It is this articulation between the spheres of interaction represented by this mode of trade and social rituals that must be examined.

Social rituals are invoked to cope with crises which arise either for the social group as a whole, or for individual group members. They are the physical manifestations of how the culture resolves these crises and, therefore, are religious in nature. As long as these resolutions, or explanations, are accepted as valid by the participants, they will be perpetuated in time by the population and are, thereby, self-reinforcing mechanisms. Since the basic types of crisis which arise are not culture-specific, the resolution of them provides man with a means of relating to others outside of his immediate social gioup. Religion, then, is reflected in the social rituals which are expressed in items of "important wealth," thereby involving it directly with the long distance trading sphere. Because objects of "important wealth" are also potential security, it is beneficial for the individual to perpetuate the social rituals/religion which incurs the value, and hence the intial demand, for the object.

The extensive distribution of "important wealth" objects and the presence of similar, possibly local manufactured religious objects—ceramic figures—are indicative of a basic commonality of crisis resolutions for prehistoric Baluchistan cultures. Such commonality may reflect a high degree of communication, or interaction, concerning these resolutions between social groups involved. The importance of the articulation between these two interaction spheres—trade and religion—has been demonstrated for Tibet:

> As every Tibetan family does, or expects to, place a son in the monastic community and is also involved in trade, we can see these two factors serve to crosscut social divisions, and transcend environmental pressures toward separatism. Trade and religion affecting all Tibetans, serve to encourage a continuous movement of goods and persons throughout Tibet. They reinforce the need for a common ecclesiastical and secular language and provide an opportunity for constant exchange of ideas [Downs and Ekvall 1965: 173].

It is proposed here that a somewhat analogous situation was in operation during the fourth millennium for Baluchistan.

Efficient exploitation of the Baluchistan environment necessitated development of two modes of subsistence-pastoralism and agriculture. Products of the two subsistence modes were such as to encourage trade between the social groups practicing them. This exchange provided a means of communication between participating parties within any given region of Baluchistan. One result of this was development of ceramic stylistic zones referred to here as traditions. Pastoralism requires migrations in order to make efficient utilization of resources, and in response to climatic conditions. During the course of such migrations pastoralists were required to make exchanges with agriculturalists of more than one tradition and, by so doing, provided a means of communication between different traditions. This communication reinforced development of a commonality of responses to crisis situations resulting in similar religious philosophies for the traditions involved. This commonlity of religion was based upon social rituals which required items of important wealth for their execution. Such items had to be scarce in order to validate the intensity of the ritual being performed. Almost by necessity, a scarce item could not be produced locally, but had to be imported. Items manufactured from materials of limited sources of origin, because of their scarce nature, would have acquired the desirability to function as important wealth. The broad consumer base for such items meant that they would have been easily exchangeable for other items wanted by their possessor. As such, they became a form of security which could be readily converted into needed items. Their function as security reinforced their role as important wealth. Important wealth objects were distributed by pastoralists who, due to their migrations, knew both sources of origin and disposal as a result of exchanges necessitated by the bimodal subsistence pattern. It is felt that this model accounts for the wide distribution of some artifacts, as well as the similarities and differences described for the various prehistoric cultures of Baluchistan and does so without invoking simple diffusion as an explanation. The operation of the interaction spheres has been delineated above, and now it is necessary to examine the consequences, or changes, resulting from its operation.

CONSEQUENCES OF SYSTEMATICS

Culture has been described as a basically conservative device, so as to insure man's survival. Renfrew stated the situation regarding culture change as:

> Culture . . . is essentially a homeostatic device, a conservative influence ensuring that change in the system will be minimised. It is a flexible adaptive mechanism which allows the survival of society despite fluctuations in the natural environment. Culture consists, of course, of patterns of learnt activity. These are therefore repetitive patterns: in similar circumstances a given action will normally be performed in the same way as on previous occasions. In each subsystem this determination of activity pattern by learning ensures that innovations are not readily accepted. By definition, what is new cannot have been learned through previous practice, and thus has no place in the existing cultural scheme of things. Wherever possible existing activity patterns will be adjusted to counteract the innovation [1972: 486-487].

Accepting this coservative aspect of culture results in something of a dilemma in proposing that the cultural phenemena observed in Baluchistan were the result of indigenous development. How, even if given the proposed interaction spheres, did complex cultures as represented by Harappa, Kulli, Mundigak IV, Shahr-i Sokhta II-III, and other sites come about if not by diffusion? This question must be addressed if the model utilized here is to have any degree of acceptance.

The Multiplier Effect

Archaeological literature is replete with explanations attributing development of complex societies to growth in a single field of human activity. For example, it has long been proposed that the increased capacity for food production brought about by domestication provided the necessary surpluses for population expansion, and leisure time to develop the arts of civilization (Childe 1950). In reference to the origin of urban centers, Adams (1966: 12) sees the transformation resulting from changes in the social organization, although he recognized that a necessary condition for this was an increase in per capita production among food producers. Utilizing such explanations it is difficult to explain why when such necessary conditions were met they did not always result in similar consequences. For example, in the American Southwest, a dependence upon domesticates did not result in a highly stratified society as happened in the Valley of Mexico. Moreover, it is difficult to envision a situation where established regulatory patterns would not be invoked to maintain the equilibrium which had proven itself capable of survival within the environmental limits. Specifically, few cultures allow for unchecked population growth. If a culture does not provide for regulation of population size through marriage rules, abortion, etc , then it is exposing its survival potential to such environmental factors as famine and disease. This, then, is the basic problem: How are cultural regulatory devices, which are known to insure survival and therefore conservative towards change, modified to allow for the growth, both quantitative and qualitative, of more complex societies responsible for that cultural phenomenon referred to as civilization?

Human conduct is regulated in almost all spheres by rules, formal or informal, established by the social group. By narrowing the analytical perspective to a single sphere of human activity such as food production, trade, religion, or social organization, it is difficult to hypothesize a situation arising where rules and norms of the other three would not be able to preserve the status quo of operation in any other single field of activity. As long as changes are reversible, little growth can be expected (increased birth rate may result in increased death rate, thereby limiting growth). For growth, a reaction to change which is irreversible and self-perpetuating, at least to a limited degree, is needed. To relate this to human activity, it is necessary not to view just a single human activity and the exterior control exerted upon it. Rather, it is the mutual controls which are operating among these activities which must be examined for the origin of the growth processes. It is not the single activity, or the single innovation, which must be deferred to as the source for change, but rather the internal structural adjustments necessitated by its happening. It is only successful interaction among all spheres of human activity which can sustain prolonged growth. This is not a simple acceleration of existing conditions, but rather a complex process of interrelated changes involving various aspects of human behaviour. This condition has been defined as the "multiplier effect":

> Changes or innovations occurring in one field of human activity (in one system of a culture) sometimes act so as to favor changes in other fields (in other subsystems). The multiplier effect is said to operate when these induced changes in one or more subsystems themselves act so as to enhance the original changes in the first subsystem [Renfrew 1972: 37].

For any change to occur it must be linked with a deviation-amplifying mutual causal system: a change in behavioral patterns or artifacts have causal effects outside of their specific sphere which not only reinforce but propagate the perpetuation of the change within its own sphere. Amplification may continue to exist until the spheres/systems are again in a stage of equilibrium and growth is arrested. It is the identification of such deviation-amplifying mutual causal system(s) that will provide insight into the explanation of the development of complex cultures in Baluchistan during the third millennium (much of the above discussion is based on Renfrew 1972: 35-8).

The Baluchistan Experience

From all available evidence, the prehistoric cultures of Baluchistan were based upon a subsistence dependent upon exploitation of domesticated plants and animals. The significance of the switch from a hunting and gathering subsistence base to one based upon domesticates has been aptly delineated by Flannery. Three of his conclusions are of particular importance here :

> The real consequence of domestication was to (1) change the means of production in society, (2) make possible divisions of labor not usually characteristic of hunter-gathers, and (3) lay the foundations for social stratification by continually reducing the zones of "optimum" productivity while allowing the population to expand at a geometric rate [Flannery 1969: 95].

The population expansion necessary for consequences 2 and 3 are based upon the Sabz Phase (5000-5500 B. C.) of the Khuzistan sequence (Hole, Flannery and Neeley 1969: 368-371). Population expansion during this phase was possible because of: (1) introduction of simple irrigation techniques which increased the amount of arable land, (2) stabilization of a six-row hulled strain of barley, (3) increased relative proportions of sheep, and (4) introduction of domesticated cattle.

In Baluchistan, six-row barley from a context earlier than Morasi IIA has not yet been identified, but is is known from Harappan contexts (Allchin 1969: 325). Sheep/goat and cattle are known from Mundigak I, for at least the later subphases, and are evidenced in quantity at all sites under discussion here. Unfortunately, there are no ratio comparisons available, but apparently domesticated animals were present in quantity. The evidence for the presence of irrigation is at this time mostly conjectural since no irrigation systems have been defined for Baluchistan. Simple flood plain and lift irrigation have been proposed for the area's prehistoric cultures by Raikes (1967: 131, 1968). Since the rivers are subjected to seasonal flooding, they tend to build themselves above the surrounding plain, making simple irrigation in the immediate vicinity of perennial rivers possible. The only systematic area survey published, the Quetta Valley (Fairservis 1956, 1971: 138 145), indicated a possibility of population growth. Beginning in Kili Gul Mohammad III of the Quetta sequence, there was an increase in number and size of sites located. Also in this period sites were located in marginal areas for the first time. The trend of increased numbers and size of sites continues through the Damb Sadaat II period. During

Damb Sadaat III, the number of sites decreases, but the size increases, which is interpreted by Fairservis (1971: 145) as indicating a centralization of population. After Damb Sadaat III, there was an apparent decline in population. This skeletal evidence has led to the hypothesis that Baluchistan during the third-second millennium was undergoing population expansion and/or concentration similar to that recorded for the Sabz Phase in Khuzistan. It is the potential effects of such population expansion as related to existing cultural interactions which are important.

The initial effect of such a population expansion would be an intensification of all existing interaction spheres. An expansion of subsistence area to provide for the increased population would extend the areas of ceramic stylistic zones—traditions. Extension of the subsistence base could be brought about by increased utilization of more marginal land. Utilization of marginal land produced an inverese ratio between the desire for surpluses and ability to produce such surpluses. This necessitated an intensification of the short distance trading spheres to insure availability of subsistence goods. Short distance trade would have increased not only between social groups within a tradition, but also between traditions occupying different regions due to seasonal availability of resources. A net increase of any size in the population would not only have increased demand for long distance trade objects to act as currency in the increased number of social rituals, but also would have enhanced their value as objects, with which to obtain surpluses. Indeed, as the potential margin of surplus decreased, a corresponding intensification of social rituals could be expected—crises could be expected to increase in frequency and rituals expanded to incorporate phenomena not previously covered. Long distance trade for items of important wealth would have necessitated more frequent interaction between distant regions to obtain the items of that trade. This interaction would have reinforced practices of the religious sphere, since religion provides the obvious value base from which the security value of important wealth objects are derived.

As population increased, existing interaction spheres intensified in order to meet the demands placed on them. The one variable necessary to maintain the homeostatic nature of this cultural adaptation was a corresponding expandable zone of optimum production. Zones of optimum production in Baluchistan, indeed in any semi-arid zone, are rarely expandable. Optimum zones of production in semi-arid zones for both agriculture and pastoralism are related to availability of water. Once subsistence exploitation is extended beyond that region immediately affected by perennial rivers, the source of moisture for crops or pasturage is subject to the vagaries of seasonal rainfall and other factors, therefore falling outside the zone of maximum production. The inverse ratio between a growing population and limited zones of optimum production could result in differentiated rights of access to basic resources. By this, it is not meant to imply an assertion of the existence of private property, rather just that such differential rights emerged regardless of whether they were invested in individuals, kin units, or supra-kin units (Fried 1967). A differential right to these zones would have resulted in a variance in the ability of basic production among social units involved. Variance in basic production would have expressed itself in differential ability to obtain items of important wealth, thereby affecting the social unit's participation in social rituals, as well as its ability to obtain security inherent in such items.

In pre-stratified societies, social units with the ability to withstand a period of scarcity must either move away or share, as there is no way to avoid the demands of other social units during such a period (Fried 1967: 187-188). It is postulated that since the basis of ability to withstand such scarcity is derived from access to physical zones of optimum production, the social unit in possession of such a zone would not risk losing it by moving away. Therefore, the unit must find a method of "sharing" this zone in times of scarcity in order to preserve its own security.

Harding (1967: 249) has pointed out that in the New Guinea example, the principal basis of prestige was an ability to mobilize and distribute food. Furthermore, such ability was often derived from a system of supporters constructed from social obligations, the maintenance of which was related to distribution of important wealth items. Social units in control of zones of optimum production were in a position to acquire such prestige, if indeed it was not forced upon them by the social group. These social units had a basic vested interest in providing such services or take a chance of losing their own security against scarcity during periods of demand. Such social units, as controllers of important areas of basic production, became the focal points of not only the trading but also the religious interaction spheres by virtue of their acquisition of important wealth. As focal points, these social units would acquire a position of deference as well as prestige—in essence incipient social stratification.

To protect themselves, and to provide such services, there were two methods available: (1) increasingly efficient utilization of marginal areas, and (2) an intensification and extension of the interaction spheres. The first, though undoubtedly undertaken, might have increased existing pressures if unaccompanied by population controls. The second had to be done to increase surpluses, as well as to establish and validate the developing roles of these social units. An intensification of the short distance trading sphere was of absolute necessity and importance, since it was concerned with subsistence goods. This sphere not only had to provide quantity, but also *predictability*. Therefore, construction of this sphere based on social obligations established through distribution of important wealth objects is expected because of their ritual-security value and their availability to the social units concerned. This situation reinforced and increased the demand for objects of long distance trading spheres. Basic to the operation of these spheres was the continued acceptance of long distance trade items as important wealth, which involved the perpetuation and expansion of the religious sphere. Perpetuation was provided by the trading interaction spheres and the ritual value from which items of important wealth receive their security value. Expansion of the religious sphere was provided by: (1) the general increase in population; (2) an increase in number, and potential kinds, of crises involving ritual, and (3) social units which have a vested interest in maintenance of the value of important wealth objects.

One very important amplification of this intensification of interaction spheres was development of a new production category—the "secondary zone of optimum production." This zone was not based upon exploitation of domesticates, but upon that of the raw materials involved in long distance trade. Social groups located in areas of origin for raw materials also had a subsistence based upon domesticates, and were subjected to the same pressures as those described for other groups. Therefore, they were also experiencing incipient social stratification. Since these new social roles were developing around an ability for efficient mobilization and redistribution of food, the potential source of surplus represented by these raw materials could hardly have been ignored by the social units coming to occupy these new social roles. The efficient organization of procurement and distribution would have further validated the role of social units controlling subsistence zones of production, or perhaps created new roles based solely upon exploitation of this new zone of optimum production. This exploitation of a "secondary zone of optimum production" was to ultimately result, in the third millennium, in organization of "points of distribution." These were centers where the social units controlling these new zones of production could most efficiently undertake their input into the long distance trading spheres. Known physical manifestations of such points would have included: Tepe Yahya—steatite, Shahr-i Sokhta-lapis lazuli and alabaster (?), and Tal-i-Iblis—copper. A somewhat similar concept—"central place trade"—has been proposed by Lamberg-Karlovsky (1972b:226-229), and Lamberg-Karlovsky and Tosic (1973) for Tepe Yahya and Shahr-i Sokhta.

A corollary of the expansion and intensification of trading spheres would have been similar development in the religious sphere. Social units responsible for this development were increasingly focal points of social rituals via their control of important wealth. Social ritual therefore offered those units an avenue of validation for their new developing roles, which in turn substantiated the value placed upon objects of important wealth which was at the base of their new roles. As a mode of validation and substantiation of these new roles, religion provided a connecting link between the social units which were occupying similar roles in different traditions (similar to that of the jade trade described by Leach 1954). One result of this increasing role of religion in the social group might have been reflected in such constructions as the so-called "temple" at Mundigak IV, the "Great Bath" at Mohenjo-daro, and the possible religious center at Nindowari. Construction of such public works is often interpreted as a firm indicator of the presence of leadership and organization. Public works, as such, are often the physical manifestations of socially stratified complex societies.

By the third millennium, the various cultural traditions of Baluchistan were linked by spheres of interaction based upon trade and religion. Gradual population expansion during the third millennium combined with the physical limitations of the Baluchistan environment to produce differential access to optimum zones of productivity based on domesticates. Social units with access to such zones began to acquire the roles of leaders due to their ability to mobilize and redistribute surpluses. In order to maintain and validate their roles as providers of security, they expanded and intensified existing interaction spheres. The result was an incipient state of social stratification based upon differential access to basic resources. Fried has postulated that such a condition:

> . . . precedes the emergence and certainly the crystallization of sophisticated political institutions. It is perhaps worthwhile to note that once emergent stratification has precipitated more complex political forms there is strong possibility that the new and burgeoning political roles will afford new paths of development for stratification [1967: 212].

Such "new paths of development" are reflected in the intensification of the long distance trading sphere, and resulting development of a "secondary zone of optimum production" based upon exploitation of the raw materials involved in such trade. Moreover, to validate and maintain the value of important wealth items, the possession of which was the foundation of leadership, the religious interaction sphere was expanded and intensified by the same social units having such limited access. As these social units consolidated their new positions through efficient management, which necessitated providing effective stimulus to the community level of economic life (cf. Sahlins 1960), they organized "points of distribution" based not only upon subsistence products, but also upon other interaction spheres. The ultimate result of these spiraling systems of interactions was the development of stratified, or complex, societies.

In the above analysis, the hypothesized multiplier effect occurred when innovation leading to increased efficiency in subsistence production resulted in population growth, which reinforced the need for such production, which in turn resulted in differential access to zones of optimum production and incipient social stratification. The situation outlined above is similar to the "Subsistence/Redistribution Model" formulated by Renfrew (1972: 480-482). As noted by Renfrew, a seemingly basic contradiction arises between population expansion and the homeostatic nature of culture. Population is homeostatically regulated through social control so as to avert the natural regulators of famine and disease which would pose a threat to the entire social group. Such population regulation has been ethnographically observed on all levels of cultural development. The basic problem is how, then, could such a necessarily highly regulated aspect of the social group be placed in a position of deviation-amplification? To answer this, some aspects of the prehistoric adaptive area must be examined.

Agricultural studies have indicated that a fully developed agricultural system at the *subsistence* level may produce a "normal" surplus, if it remains in balance with its environment. However, it has also been stated that:

> When dependence on agriculture is complete or almost so, the exploiting group must cultivate an area large enough to ensure the food supply in a season of poor yield. Otherwise the community would not survive for long. Consequently there is a surplus in the "normal" year, none in the poor year and shortage or famine in the unusually bad season. This is as much as the hoe-cultivator can do on fallow-rotation soils under rainfed conditions [Allan 1972: 222].

Accepting a basic analogy between conditions in Baluchistan and Khuzistan (Hole, Flannery and Neeley 1969: 368-371), it can be concluded that these social groups were not in any sort of a balance with the environment. The almost complete dependence upon domesticates had resulted in destruction of the natural habitat to the extent that it was no longer a significant source for supplimentary subsistence items. This dependence created a need for the larger area of cultivation stated above. A vital influence upon this need was the frequency of poor and bad seasons.

In Jhalawan (Raikes 1967: 66-67), for example, there occurs 200 mm. of annual rainfall in equal amounts during winter and summer. The chances, based upon modern records, of half the seasonal amount—50 mm.—falling in any one season, is once in nine years. The probability of a yearly shortage of half the mean annual rainfall would be once in eighty-one years. In comparison the chances for the rest of the Iranian Plateau receiving half the mean annual rainfall are much greater, since they receive all their rainfall in winter (probability of once in every twenty years). By comparison, Baluchistan has a favorable rainfall pattern, but even so a shortage, or poor season, can be expected once in every ten years. On this basis, a probability of severe yearly drought could be expected every eighty years, or every other prehistoric generation. Furthermore, rainfall shortages are seldom of short duration, so marginal conditions might persist for long periods of time. Since the analogy between modern and prehistoric climatic conditions has been accepted here, it is reasonable to postulate that both poor and bad seasons were known to the inhabitants of prehistoric Baluchistan with a reasonable degree of frequency.

Another important consideration is the fact that during this time period, we are probably dealing with hoe-cultivation. To increase the size of arable land under this method, it is necessary to have more hoes and sickles utilized, and therefore an increase in manpower whether temporary or permanent. Paleodemographic data for this area and period are non-existent; however, Angel (1969) has analyzed some populations from a somewhat later prehistoric time in the eastern Mediterranean which might enlighten the situation here (although this is done with reservations). Not unexpectedly, the infant:child:adult death ratio was high (5:4+:10) and a generation increase of 19% was determinable. An increase of this magnitude is quite high, as a 9% increase per generation is considered very rapid today (Angel 1969: 432). It would seem reasonable to predict, on the basis of Angel's study, that a generation increase of at least 4% for prehistoric Baluchistan was necessary to meet the manpower demands of hoe-cultivation. Furthermore, a high infant and child death rate is always a source of population growth, if circumstance should lower that rate for any period of time.

These adaptive area factors must be considered in light of one of culture's basic functions as being an:

> . . . adaptive mechanism which allows the survival of society despite fluctuations in the natural environment [Renfrew 1972: 486].

This function of providing survival in combination with the adaptive area characteristics of: (1) complete dependence upon agriculture (including pastoralism) necessitating the cultivation of larger subsistence areas, (2) frequent seasonal shortages and limited zones of optimum production, and (3) the manpower factors involved in hoe cultivation, produced the mainspring for initiation of growth between the interaction spheres delineated above. This mainspring for growth was "security against scarcity". The ever-present threat of scarcity (whether of minor or major degree) regarding subsistence products operated to favor those innovations which would decrease the probability of such scarcities, thereby insuring tne survival of the social group despite environmental fluctuations. "Security against scarcity" was the kernel (to use Renfrew's term) of the many interactions between activities and between spheres of interaction. It was this vital, ever present, aspect inherent within the nature of culture itself which provided for the operation of the multiplier effect in Baluchistan. Indeed, this mainspring could have initiated the growth processes in these various interaction spheres while homeostatically regulating the populatian. Therefore population expansion becomes a *sufficient* but not a *necessary* cause of the growth cycle.

TESTABILITY

A detailed research design would be out of place here. Certainly, it is felt that all the above hypothesized relationships and interactions are testable through systematic excavations. A model for such investigation is already available in the published literature for the western fringes of the Iranian Plateau. More precisely what is initially called for are surveys similar to that of Adams (1965) and Adams and Nissen (1972), which are aimed toward delineating cultural growth and processes rather than just the location of more sites. Such surveys must be followed by systematic excavations directed to test hypotheses formulated as a result of the surveys similar to that of Hole, Flannery and Neeley (1969) on the Deh Luran Plain, and by Renfrew (1972) in the Aegean. In addition to the expanded fieldwork, a detailed analysis of the existing figurines is necessary to determine if they were manufactured locally or imported. Furthermore, what is vitally needed in Baluchistan archaeology are more horizontal excavations concerned with examining relationships within a site, as well as between sites, rather than the *sondage* type that has been so prevalent.

Perhaps more necessary to the testing of the above hypotheses is the reorientation of some researchers, and the continuation among others, to the approach that cultural processes as discussed above are obtainable from the archaeological data. Binford has aptly summarized this situation:

> . . . there is a necessary first step in archaeological research—the attempt to explain observations made on the archaeological record by hypothesis formation and testing. It has been stressed that this step *necessarily* involves coping with problems of process. We attempt to explain similarities and difference in archaeological remains in terms of the functioning of material items in a cultural system and the processual features of operation or evolution of the cultural systems responsible for the varied artifact forms, associations and distribution observable in the ground [Binford 1968: 273].

It will only be possible to test the hypotheses and concepts advocated above by the application of systematic field techniques in conjunction with this approach to archaeological data retrieved.

Summary and Conclusions

An initial attempt has been made to provide an alternative to diffusion as an interpretative framework for Baluchistan prehistory. Diffusionary explanations are increasingly difficult to maintain as new data is gathered in many parts of the world. Attempts to develop alternative analytical frameworks in archaeology have recently focused on a systemtic approach to the data. This analytical approach has enabled the organization and presentation of data in such a manner as to allow for determination of new insights into man-man and man-environment relationships. The approach was first advocated by Binford (1965), and perhaps the two most comprehensive applications have been that of Hole, Flannery and Neeley (1969) in western Iran, and Renfrew (1972) in the Aegean. Indeed, the author has relied heavily upon these works here, albeit but a pale reflection of them.

Many who have advocated the systematic approach have felt that it could, and should, result in archaeology being able to offer "covering laws" concerning human behavior (e.g. Watson, LeBlanc; and Redman 1971). Renfrew (1972: 449-504) approached this level of analysis with his "pecuniary emulation" law as a source for the growth of civilization in the Aegean. However, Renfrew notes that his conclusions were specific to this region, which would invalidate it as a so-called "covering law". Indeed, when the material here was first presented (Shaffer 1972), a possible "covering law" was postulated. Five years of hindsight, and a realization of how limited the data for Baluchistan is, has made that postulation presumptuous. The question of whether archaeology can ever, or should, postulate such laws remains a question of debate. Concomitantly, there has been a growing realization that systemtic analysis, while a powerful analytical tool for organizing data and pin-pointing relationships between variables, is not of and in itself necessarily going to result in adequate interpretations of the data.

Recently Higgs (1975), noting the limitations of systemtics, has directed attention to the study of "paleoeconomics". Attention is focused upon man-man and man-ecological relationships, and how they alter during periods of fluctuations, particularly how man develops institutions to cope with extreme periods of stress which directly, or indirectly, threaten the social group's basic survival. Although periods of adequate, and even surplus, resources can create problems of adjustment, it is the period when inadequate resources are available that ultimately challenges the cultural adaptations which have been developed. It is an examination of some of these "paleoenonomic" relationships which has been attempted here with the Baluchistan data.

Future information will no doubt alter many of the ideas presented here. The need for new information and fresh interpretations is particularly acute within the area discussed. At most it is hoped that the arguement(s) presented will open new perspectives and problem areas for future research. One such area which needs additional investigation is the potential role played by pastoral nomads in the pre— and protohistoric contexts. Another important need is to adequately explore the dimensions of trade as an explanatory factor. Certainly, long distance, or international, trade has received increasing emphasis as a possible "prime motivation" for the development of urbanism and civilization. However, few of these discussions adequately relate trade to the other social institutions which it helped develop and which developed it. There are many avenues of investigation to be explored, and the one presented here. it is hoped, will be stimulating if not useful in the development of further alternative approaches.

APPENDIX

CERAMIC DATA

ARTIFACTS	SAID QALA (Shaffer 1971, 1972)	DEH MORASI (Durpee 1963)	MUNDIGAK (Casal 1961)	QUETTA (Fairservis 1956)	ZHOB (Ross 1947, Piggott 1950, Fairservis 1959)	ANJIRA (DeCardi 1965)	NAL (Hargraves 1929)	KULLI (Stein 1937, Fairservis 1971)	BAMPUR (DeCardi 1970)	
Ceramics Limited Function Quetta Wet Fiaz Mohammad Kechi Beg Bichrome Kili Gul Mohammad Black-on-Red	All Present	All Absent	All present between I-IV. Quetta Wet only in IV.	All Present	All Present	All Present	All present (consult Hargraves' plates XI and XII).	Unknown	Similarity with Faiz Mohammad and Kili Gul Mohammad noted for some sherds in early periods.	
Intrusive Quetta Amri Nal Togau	Indigenous Present Present Absent	Indigenous Absent Absent Absent	Indigenous Present Present Present	Indigenous Some stylistic parallels with Amri definable among bichromes only.	All Present except for Nal.	Nal and Togau are indigenous, Quetta present and some similarity with Amri.	Nal indigenous. Some parallels with Amri definable. Togau and Quetta absent.	Possible Quetta, Nal and Togau at Mehi.	Only a general similarity definable with Quetta Ware.	So An Ot
Metal Bronze Pins Double Volute Twisted Shaft Plain Bronze Points Copper Tubes Pins Bronze Necklace Bronze Seals Bronze Chisels	 Present Present Present Present Absent Present Absent Absent Present	Copper pins. Copper tube present. in shrine of IIA. Bronze seal in IV.	Variety of bronze pins, points and punches. Shaft hole axe and adze in III, and seals in IV.	One copper object.	Unassociated copper pins and points.	Absent. However, presence of wetstone suggests use of metal instruments.	Points, chisels, swords, seals, saws, adze all in a burial context. Silver also found.	Copper/bronze bracelet, mirror, and pins found with cremations. Undetermined forms in the fill.	Pin, ring, bowl. dish and compartmented seal from *late* Period IV-V.	Br
Figurines Female Bovine	Present Present	Female figurine in Shrine of IIA.	Numerous bovine and female figurines I-IV. Zhob figurines in IV only. A few male figurines also found.	Bovine and Zhob female figurines in Damb Sadaat II-III.	Bovine and Zhob female figurines from later periods.	Only a few fragments of bovine (?) figurines.	Bovine and one female figurine.	Present. Female figurines are Kulli style.	One possible human figurine from early periods and one bovine from late periods.	
Steatite Compartmented Seal	Present	Two, found in II A and C.	Several examples from II through IV.	Two comparmented seals of *clay* from late periods.	One reported for later period by Stein.	Absent	Absent	Absent	One reported but from late period.	
Precious Stones Turquoise Lapis lazuli Rock Crystal Carnelian	All Present	All Absent	All present in a wide variety of forms.	Single lapis lazuli bead from Damb Sadaat II.	All Absent	All Absent	All present except turquoise.	Only lapls lazuli mentioned.	All Absent	
Shell Pendants Beads Bracelets	One possible pendant and a few beads.	All Absent	Simple shell beads reported from most periods.	Single shell bracelet/ ring from Damb Sadaat II.	Bone/shell disc beads from late periods.	All Absent	One shell bangle and a bi-valve sea shell.	Bracelets only.	Shell bangle only.	She and mo

Table I. Distribution chart of select artifacts indicating cross-cultural interaction.

0)	KOT DIJI (Khan 1965)	AMRI (Casal 1964)	SHAHR-I-SOKHTA (Tosi 1969)	YAHYA (Lamberg-Karlovsky 1970)
Faiz Kili oted s in	Absent	Only some stylistic similarities with Kechi Beg Bichrome.	Kechi Beg Bichromes and a type similar to Faiz Mohammad.	A grayware type similar to Faiz Mohammad in Periods IVC-B.
simi- with	Some parallels with Amri but limited. Others absent.	Amri indigenous. A few sherds of Togau. Others absent.	Quetta indigenous, Others absent.	A few very limited similarities to Quetta in IVC. Also from IVC a single fragment of Nal type pottery. A single example of Amri style bichrome was found on the surface.
dish ented eriod	Bronze bangle and ring.	One copper fragment from Period IA.	Bronze pins, points and knives reported for at least late Period.	Wide variety of bronze artifacts throughout Period IV.
man early bovine s.	One bovine.	Bovine and caprid figurines only.	Numerous examples of female, bovine, boar and other zoomorphic figurines reported throughout the sequence.	Dog/bovine figurines from Period V.
from	Absent	Absent	Present	Possible seal reported from Period V.
	All Absent	Carnelian and lapis lazuli beads for Period I.	All Present	Turquoise necklace and carnelian beads.
	Shell bangle, beads, and fragments of mother-of-pearl.	Bangles, beads and pendants.	All Absent	Shell beads as well as mother-of-pearl, pig(?) and snake pendants.

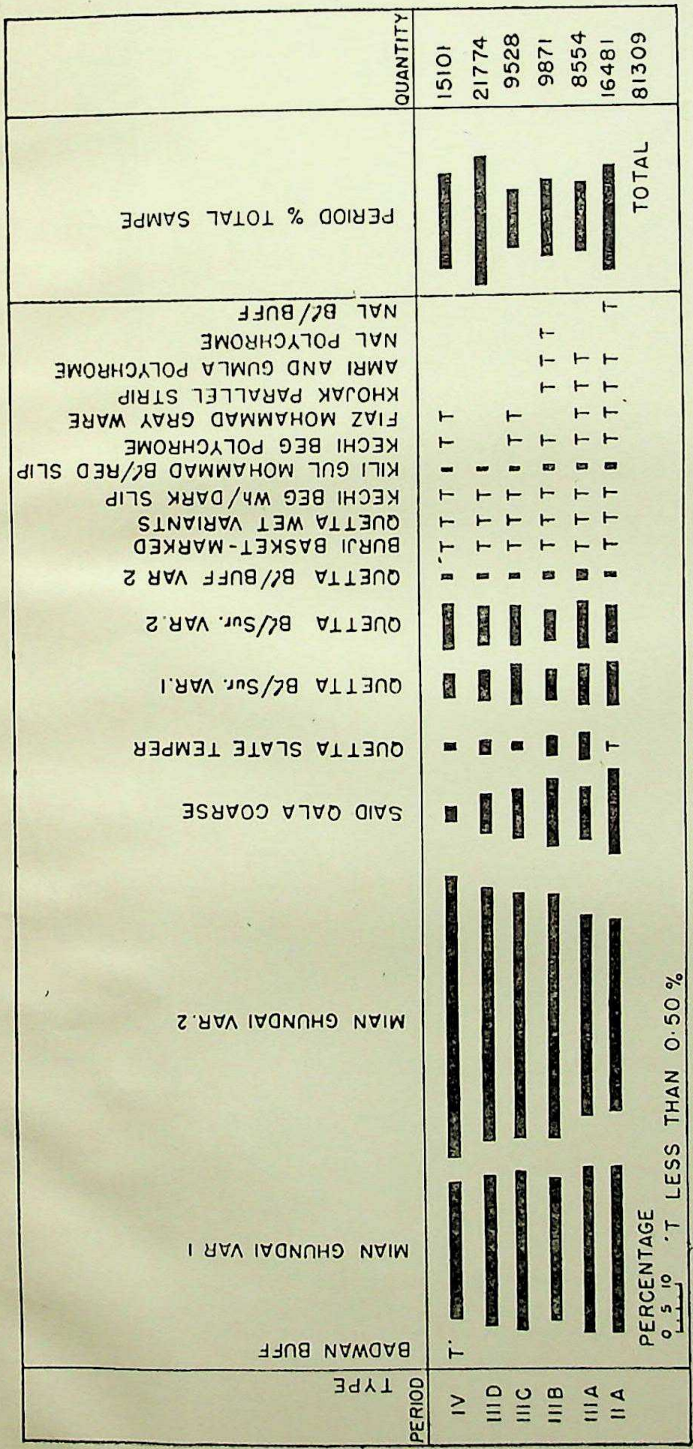


TABLE 2. QUANTITATIVE GRAPH OF CERAMIC TYPE FREQUENCIES IN TRENCH A.

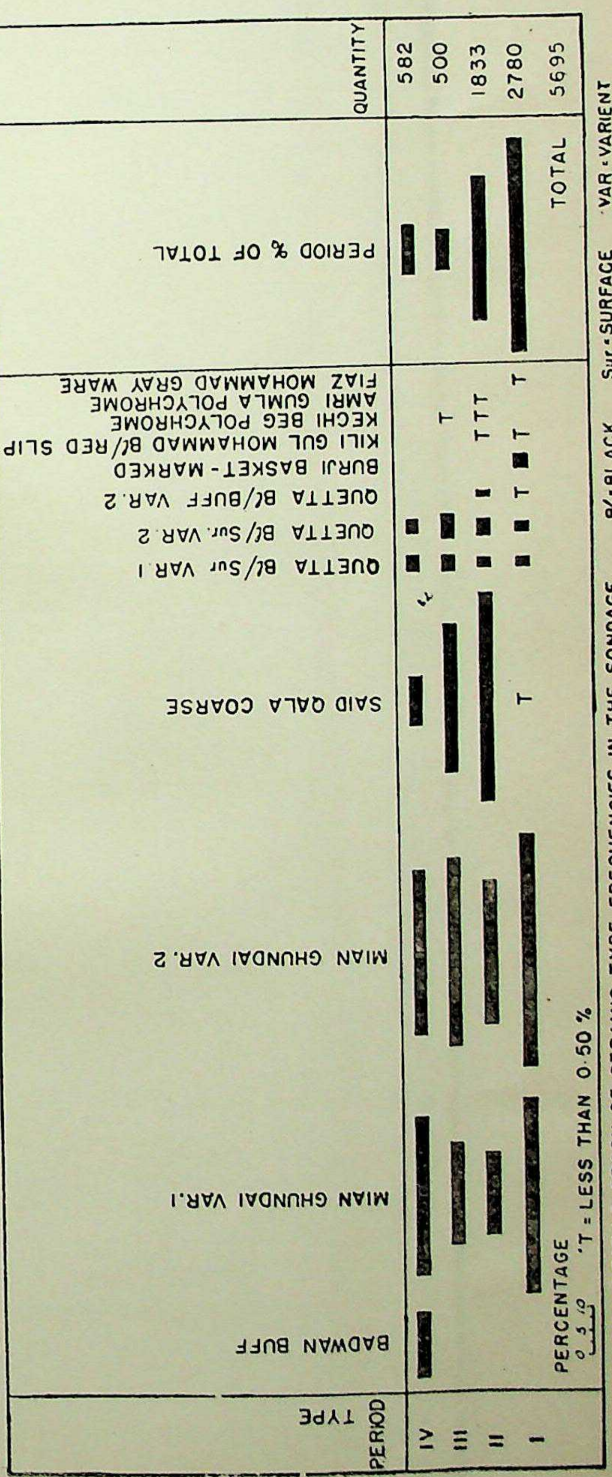


TABLE 3. QUANTITATIVE GRAPH OF CERAMIC TYPE FREQUENCIES IN THE SONDAGE. Bℓ = BLACK Sur = SURFACE VAR = VARIENT

	Vessel Form	ANGULAR WALLED						S-WALLED						STEEP-ANGULAR WALLED						CONSTRICTING WALLED							
	Lip Form	ROLLED			PLAIN			ROLLED			PLAIN			ROLLED			PLAIN			ROLLED			PLAIN				
			% of Total per			% of Total per			% of Total Per			% of Total per			% of Total Per			% of Total per			% of Total per			% of Total per			
Period	Type	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Sub-Total	% of Total
IV	Quetta BL/Sur Var. 1	—	—	—	76	18.01	35.02	1	0.48	0.46	139	17.46	64.06	—	—	—	—	—	—	—	—	—	1	20.00	0.46	217	14.37
	Quetta BL/Sur Var. 2	1	1.54	0.19	147	34.84	28.37	4	1.91	0.77	366	45.98	70.66	—	—	—	—	—	—	—	—	—	—	—	—	518	34.31
	Quetta Slate Temper	30	46.15	73.17	3	0.71	7.32	2	0.95	4.88	5	0.63	12.20	1	11.11	2.44	—	—	—	—	—	—	—	—	—	41	2·72
	Said Qala Coarse	14	21.54	25.93	34	8.06	62.96	1	0.48	1.85	2	0.25	3.70	2	22.22	3.70	1	33.33	1.85	—	—	—	—	—	—	54	3.58
	Main Ghundai Var. 1	9	13.85	5.11	37	8.77	21.02	65	30.95	36.93	58	7.29	32.96	5	55.55	2.84	—	—	—	—	—	—	2	40.00	1.14	176	11.66
	Main Ghundai Var. 2	11	16.92	2.18	125	29.62	24.08	137	65.24	27.18	226	28.39	44.86	1	11.11	0.20	2	66.67	0.40	—	—	—	2	40.00	0.40	504	33.38
	Sub-Total	65	4.30	11.57	422	27.95	8.79	210	13.91	31.16	796	52.72	25.69	9	0.60	11.11	3	0.20	11.54	=	—	—	5	0.33	3.91	1510	16.11
III D	Quetta BL/Sur Var. 1	2	1.69	0.49	202	20.20	49.15	1	0.46	0.24	203	19.43	49.39	2	8.33	0.49	—	—	—	—	—	—	1	4.00	0.24	411	16.89
	Quetta BL/Sur Var. 2	—	—	—	347	34.70	43.48	2	0.92	0.25	448	42.87	56.14	—	—	—	—	—	—	—	—	—	1	4.00	0.13	798	32.79
	Quetta Slate Temper	63	53.39	80.77	3	0.30	3.85	2	0.92	2.56	5	0.48	6.41	5	20.83	6.41	—	—	—	—	—	—	—	—	—	78	3.20
	Said Qala Coarse	23	19.49	15.86	102	10.20	70.35	12	5.51	8.28	5	0.29	2.07	1	4.17	0.69	2	50.00	1.38	—	—	—	2	8.00	1.38	145	5.96
	Main Ghundai Var. 1	19	16.10	6.40	94	9.40	31.65	59	27.06	19.87	98	9.38	33.00	8	33.33	2.69	2	50.00	0.67	—	—	—	17	68.00	5.72	297	12.20
	Main Ghundai Var. 2	11	9.32	1.56	252	25.20	35.75	142	65.14	20.14	286	27.56	40.85	8	33.33	1.14	—	—	—	—	—	—	4	16.00	0.57	705	28.96
	Sub-Total	118	4.85	21.00	1000	41.09	20.83	218	8.96	32.34	1045	42.93	33.72	24	0.99	29.63	4	0.16	15.38	—	—	—	25	1.03	19.53	2434	25.97
III	Quetta BL/Sur Var. 1	—	—	—	117	21.67	57.07	—	—	—	87	19.51	42.44	1	7.69	0.49	—	—	—	—	—	—	—	—	—	205	17.94
	Quetta BL/Sur Var. 2	1	1.69	0.26	187	34.63	48.70	1	1.43	0.26	195	43.72	50.78	—	—	—	—	—	—	—	—	—	—	—	—	384	33.60
	Quetta Slate Temper	16	27.12	80.00	1	0.19	5.00	—	—	—	—	—	—	3	23.08	15.00	—	—	—	—	—	—	—	—	—	20	1.75
	Said Qala Coarse	27	45.76	25.23	66	12.22	61.68	4	5.71	3.74	3	0.67	2.80	4	30.77	3.74	2	50.00	1.87	—	—	—	1	9.09	0.94	107	9.36
	Main Ghundai Var. 1	12	20.34	8.28	40	7.41	27.59	32	45.71	22.07	48	10.76	33.10	3	23.08	2.07	2	50.00	1.38	—	—	—	8	72.72	5.52	145	12.69
	Main Ghundai Var. 2	3	5.08	1.06	129	23.89	45.74	33	47.14	11.70	113	25.34	40.07	2	15.38	0.71	—	—	—	—	—	—	2	18.18	0.71	282	24.67
	Sub-Total	59	5.16	10.50	540	47.24	11.25	70	6.12	10.39	446	39.02	14.39	13	1.14	16.05	4	0.35	15.38	—	—	—	11	0.96	8.59	1143	12.20
III B	Quetta BL/Sur Var. 1	1	1.14	0.47	134	20.94	63.51	1	1.67	0.47	75	22.52	35.55	—	—	—	—	—	—	—	—	—	—	—	—	211	18.35
	Quetta BL/Sur Var. 2	—	—	—	193	30.16	56.27	2	3.33	0.58	148	44.44	43.15	—	—	—	—	—	—	—	—	—	—	—	—	343	29.83
	Quetta Slate Temper	55	62.50	96.49	1	0.16	1.75	1	1.67	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	57	4.96
	Said Qala Coarse	15	17.05	10.64	107	16.72	75.87	6	10.00	4.26	5	1.50	3.55	4	40.00	2.84	2	40.00	1.42	—	—	—	2	14.29	1.42	141	12.26
	Main Ghundai Var. 1	14	15.91	10.07	58	9.06	41.73	25	41.67	17.99	26	7.81	18.71	4	40.00	2.88	1	20.00	0.72	—	—	—	11	78.57	7.91	139	12.07
	Main Ghundai Var. 2	3	3.41	1.16	147	22.97	56.76	25	21.67	9.66	79	23.72	30.50	2	20.00	0.77	2	40.00	0.77	—	—	—	1	7.14	0.39	259	22.52
	Sub-Total	88	7.65	15.66	640	55.65	13.33	60	5.22	8.90	333	28.96	10.75	10	0.87	12.35	5	0.44	19.23	—	—	—	14	1.22	10.92	1150	12.27
III A	Quetta BL/Sur Var. 1	2	2.30	1.06	126	20.22	67.02	2	3.51	1.06	58	20.07	30.85	—	—	—	—	—	—	—	—	—	—	—	—	188	17.28
	Quetta BL/Sur Var. 2	—	—	—	236	37.88	69.21	—	—	—	105	36.33	30.79	—	—	—	—	—	—	—	—	—	—	—	—	341	31.34
	Quetta Slate Temper	57	65.52	100.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	57	5.24
	Said Qala Coarse	14	16.09	14.14	76	12.20	76.76	1	1.75	1.01	2	0.69	2.02	2	33.33	2.02	1	16.67	1.01	—	—	—	3	15.00	3.03	99	9.10
	Main Ghundai Var. 1	12	13.73	8.96	58	9.31	43.28	32	56.14	23.88	21	7.27	15.67	3	50.00	2.24	3	50.00	2.24	—	—	—	5	25.00	3.73	134	12.32
	Main Ghundai Var.	2	2.30	0.75	127	20.39	45.57	22	38.60	8.24	101	34.95	37.83	1	16.67	0.38	2	33.33	0.75	—	—	—	12	60.00	4.49	267	24.54
	Sub-Total	87	8.00	15.48	623	57.26	12.98	57	5.24	8.46	289	26.56	9.33	6	0.55	7.41	6	0.55	23.08	—	—	—	20	1.84	15.63	1088	11.61
II A	Quetta BL/Sur Var. 1	3	2.07	0.63	439	27.86	91.65	1	1.69	0.21	35	18.42	7.31	—	—	—	—	—	—	—	—	—	1	1.89	0.21	479	23.41
	Quetta BL/Sur Var. 2	1	0.69	0.17	525	33.31	88.38	—	—	—	66	34.74	11.11	—	—	—	1	25.00	0.17	—	—	—	1	1.89	0.17	594	29.03
	Quetta Slate Temper	2	1.38	100.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	0.98
	Said Qala Coarse	99	68.28	28.45	211	13.39	60.63	12	20.34	3.45	13	6.84	3.74	2	10.53	0.58	3	75.00	0.86	—	—	—	8	15.09	2.30	348	17.01
	Main Ghundai Var. 1	26	17.93	9.19	160	10.15	56.54	24	40.68	8.48	30	15.79	10.60	14	73.68	4.95	—	—	—	—	—	—	29	54.72	10.25	283	13.83
	Main Ghundai Var. 2	14	9.66	4.12	241	15.29	70.88	22	37.29	6.47	46	24.21	13.53	3	15.79	0.88	—	—	—	—	—	—	14	26.42	4.12	340	16.62
	Sub-Total	145	7.09	25.80	1576	77.03	32.83	59	2.88	8.75	190	9.29	6.13	19	0.93	23.46	4	0.20	15.38	—	—	—	53	2.69	41.41	2046	21.83
	Total	562	5.60		4801	51.23		674	7.19		3099	33.07		81	0.86		26	0.28		—	—	—	128	1.37		9371	100.00

Table 4. Attribute analysis of bowl forms in Trench A. *P—Period *T—Type

		COLLARED JARS																									
	Vessel form	TALL						SHORT						SHOULDERED						GLOBULAR							
	Lip Form	ROLLED			PLAIN			ROLLED			PLAIN			ROLLED			PLAIN			ROLLED			PLAIN				
			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			
Period	Type	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Sub-Total	% of Total
IV	Quetta BL/Sur Var.1	12	10.00	44.44	7	22.58	25.93	1	25.00	3.70	2	33.33	7.41	1	5.00	3.70	4	19.05	14.82	—	—	—	—	—	—	27	13.17
	Quetta BL/Lur Var.2	1	0.83	6.66	11	35.48	73.33	—	—	—	1	16.67	6.66	—	—	—	2	9.52	13.33	—	—	—	—	—	—	15	73.17
	Said Qala Coarse	—	—	—	1	3.23	50.00	—	—	—	—	—	—	—	—	—	1	4.76	50.00	—	—	—	—	—	—	2	0.98
	Main Ghundai Var.1	52	43.33	66.66	6	19.35	7.69	—	—	—	2	3.33	2.56	8	40.00	10.26	8	38.10	10.26	2	66.67	2.56	—	—	—	78	38.05
	Main Ghundai Var 2	55	45.83	66.27	6	19.35	7.23	3	75.00	3.61	1	16.67	1.21	11	55.00	13.25	6	28.57	7.23	1	33.33	1.21	—	—	—	83	40.49
	Sub- Total	120	58.54	18.75	31	15.12	15.66	4	1.95	9.09	6	2.93	5.88	20	9.76	25.00	21	10.24	16.54	3	1.46	100.00	—	—	—	205	17.14
III D	Quetta BL/Sur Var. 1	12	6.63	27.91	9	28.13	20.93	—	—	—	3	20.00	6.98	5	17.86	11.63	14	40.00	32.56	—	—	—	—	—	—	43	14.24
	Quetta BL /Sur Var. 2	9	4.97	42.86	1	3.13	4.77	—	—	—	5	33.33	23.81	—	—	—	6	17.14	28.57	—	—	—	—	—	—	21	6.95
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	100.00	100.00	1	0.33
	Main Ghundai Var. 1	90	49.72	68.18	15	46.88	11.36	3	30 00	2.27	4	26.67	3.03	13	46.43	9.85	7	20.00	5.30	—	—	—	—	—	—	132	43.71
	Main Ghundai Var. 2	70	38.67	66.66	7	21.88	6.66	7	70.00	6.66	3	20.00	2.86	10	35.71	9.52	8	22.86	7.62	—	—	—	—	—	—	105	34.77
	Sub-Total	181	59.93	28.28	32	10.60	16.16	10	3.31	22.73	15	4.97	14.71	28	9.27	35.00	35	11.59	27.56	—	—	—	1	0.33	50.00	302	25.25
III C	Quetta BL/Sur Var. 1	5	6.67	21.74	3	15.79	13.04	—	—	—	7	46.67	30.44	2	20.00	8.70	6	35.29	26.09	—	—	—	—	—	—	23	15.65
	Quetta BL/Sur Var. 2	1	1.33	20.00	1	5.26	20.00	—	—	—	3	20.00	60.00	—	—	—	—	—	—	—	—	—	—	—	—	5	3.40
	Said Qala Coarse	—	—	—	1	5.26	100.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	0.68
	Main Ghundai Var. 1	49	65.33	62.03	10	52.63	12.66	5	45.45	6.33	3	20.00	3.80	7	70.00	8.86	5	29.41	6.33	—	—	—	—	—	—	79	53.74
	Main Ghundai Var. 2	20	26.67	51.28	4	21.05	10.26	6	54.55	15.39	2	13.33	5.12	1	10.00	2.56	6	35.29	15.39	—	—	—	—	—	—	39	26.53
	Sub-Total	75	51.02	11.72	19	12.93	9.60	11	7.48	25.00	15	10.20	14.71	10	6.80	12.50	17	11.57	13.39	—	—	—	—	—	—	147	12.29
III B	Quetta BL/Sur Var. 1	27	29.67	69.23	4	20.00	10.26	—	—	—	—	—	—	2	25.00	5.13	6	66.67	15.39	—	—	—	—	—	—	39	27 86
	Quetta BL/Sur Var. 2	8	8.79	61.54	4	20.00	30.77	—	—	—	1	9.09	7.69	—	—	—	—	—	—	—	—	—	—	—	—	13	9.29
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	1	9.09	100.00	—	—	—	—	—	—	—	—	—	—	—	—	1	0.71
	Main Ghundai Var. 1	33	36.26	67.35	6	30.00	12.25	—	—	—	4	36.36	8.16	4	50.00	8.16	2	22.22	4.08	—	—	—	—	—	—	49	35.00
	Main Ghundai Var. 2	23	25.27	60.53	6	30.00	15.79	1	100.00	2.63	5	45.45	13.16	2	25.00	5.26	1	11.11	2.63	—	—	—	—	—	—	38	27.14
	Sub-Total	91	65.00	14.22	20	14.29	10.10	1	0.71	2.27	11	7.86	10.78	8	5.71	10.00	9	6.43	7.09	—	—	—	—	—	—	140	11.71
III A	Quetta BL/Sur Var. 1	3	4.05	14.29	3	17.65	14.29	—	—	—	4	26.67	19.05	—	—	—	11	52.38	52.38	—	—	—	—	—	—	21	15.44
	Quetta BL/Sur Var. 2	1	1.35	20.00	2	11.76	40.00	—	—	—	1	6.67	20.00	—	—	—	1	4.76	20.00	—	—	—	—	—	—	5	3.68
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	9.52	100.00	—	—	—	—	—	—	2	1.47
	Main Ghundai Var. 1	28	37.84	52.83	7	41.18	13.21	7	100.00	13.21	7	46.67	13.21	2	100.00	3.77	2	9.52	3.77	—	—	—	—	—	—	53	38.97
	Main Ghundai Var. 2	42	56.76	76.36	5	29.41	9.09	—	—	—	3	20.00	5.46	—	—	—	5	23.81	9.09	—	—	—	—	—	—	55	40.44
	Sub-Total	74	54.41	11.56	17	12.50	8.59	7	5.15	15.91	15	11.03	14.71	2	1.47	2.50	21	15.44	16.54	—	—	—	—	—	—	136	11.37
II A	Quetta BL/Sur Var. 1	6	6.06	16.22	20	25.32	54.05	—	—	—	4	10.00	10.81	—	—	—	7	29.17	18.92	—	—	—	—	—	—	37	13.96
	Quetta BL/Sur Var. 2	10	10.10	47.62	6	7.59	28.57	—	—	—	2	5.00	9.53	1	8.33	4.76	1	4.17	4.76	—	—	—	1	100.00	4.76	21	7.92
	Said Qala Coarse	1	1.01	5.88	3	3.80	17.65	—	—	—	7	17.50	41.18	1	8.33	5.88	5	20.83	29.41	—	—	—	—	—	—	17	6.42
	Main Ghundai Var. 1	33	33.33	31.13	36	45.57	33.96	7	63.63	6.60	17	42.50	16.04	7	58.33	6.60	6	25.00	5.66	—	—	—	—	—	—	106	40.00
	Main Ghundai Var. 2	49	49.49	57.65	14	17.72	16.47	4	36.36	4.71	10	25.00	11.76	3	25.00	3.53	5	20.83	5.88	—	—	—	—	—	—	85	32.08
	Sub-Total	99	37.22	15.47	79	29.70	39.90	11	4.14	25.00	40	15.04	39.22	12	4.51	15.00	24	9.02	18 90	—	—	—	1	0.38	50.00	266	22.24
	Totals	640	53.51		198	16.56		44	3.68		102	8.53		80	6.69		127	10.62		3	0.25		2	0.17		1196	100.00

Table 5. Attribute analysis of jar forms in Trench A. *P=Period *T=Type.

Vessel form		S-WALLED									STRAIGHT-CONSTRICTING									PARALLED SIDED										
Lip Form		PLAIN			THINNED			THICKEN			PLAIN			THINNED			THICKEN			PLAIN			THINNED			THICKED				
			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			% of Total Per			
Period	Type	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Sub-Total	% of Total
IV	Quetta BL/Sur Var.1	13	26.53	44.85	—	—	—	—	—	—	12	46.15	41.38	2	22.22	6.90	—	—	—	—	—	—	2	100.00	6.90	—	—	—	29	33.72
	Quetta BL/Sur Var.2	19	38.78	55.88	—	—	—	—	—	—	9	34.62	26.47	6	66.67	17.65	—	—	—	—	—	—	—	—	—	—	—	—	34	39.53
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—
	Main Ghundai Var.1	4	8.16	66.66	—	—	—	—	—	—	2	7.69	33.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6.98
	Main Ghundai Var 2	13	26.53	76.47	—	—	—	—	—	—	3	11.54	17.65	1	11.11	5.88	—	—	—	—	—	—	—	—	—	—	—	—	17	19.77
	Sub- Total	49	56.98	21.49	—	—	—	—	—	—	26	30.23	7.88	9	10.47	11.25	—	—	—	—	—	—	2	2.33	7.41	—	—	—	86	12.61
III D	Quetta BL/Sur Var. 1	16	22.22	26.67	—	—	—	—	—	—	32	44.44	53.33	9	37.50	15.00	—	—	—	3	100.00	5.00	—	—	—	—	—	—	60	35.09
	Quetta BL/Sur Var. 2	24	33.33	48.00	—	—	—	—	—	—	20	27.78	40.00	6	25.00	12.00	—	—	—	—	—	—	—	—	—	—	—	—	50	29.24
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—
	Main Ghundai Var. 1	6	8.33	21.43	—	—	—	—	—	—	14	19.44	50.00	8	33.33	28.57	—	—	—	—	—	—	—	—	—	—	—	—	28	16.37
	Main Ghundai Var. 2	26	36.11	78.79	—	—	—	—	—	—	6	8.33	18.18	1	4.17	3.03	—	—	—	—	—	—	—	—	—	—	—	—	33	19.30
	Sub-Total	72	42.11	31.58	—	—	—	—	—	—	72	42.11	21.82	24	14.04	30.00	—	—	—	3	1.75	30.00	—	—	—	—	—	—	171	25.07
III C	Quetta BL/Sur Var. 1	14	53.85	33.33	—	—	—	—	—	—	23	46.94	54.76	4	44.44	9.52	—	—	—	—	—	—	1	50.00	2.38	—	—	—	42	47.19
	Quetta BL/Sur Var. 2	6	23.08	35.29	—	—	—	—	—	—	7	14.29	41.18	3	33.33	17.65	—	—	—	—	—	—	1	50.00	5.88	—	—	—	17	19.10
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—
	Main Ghundai Var. 1	—	—	—	—	—	—	—	—	—	11	22.45	91.67	1	11.11	8.33	—	—	—	—	—	—	—	—	—	—	—	—	12	13.48
	Main Ghundai Var. 2	6	23.08	33.33	—	—	—	—	—	—	8	16.33	44.44	1	11.11	5.56	—	—	—	—	—	—	—	—	—	3	100.00	16.67	18	20.22
	Sub-Total	26	29.21	11.40	—	—	—	—	—	—	49	55.06	14.85	9	10.11	11.25	—	—	—	—	—	—	2	2.25	7.41	3	3.37	42.86	89	13.05
III B	Quetta BL/Sur Var. 1	13	38.24	32.50	—	—	—	—	—	—	20	37.74	50.00	3	33.33	7.50	—	—	—	2	100.00	5.00	2	100.00	5.00	—	—	—	40	40.00
	Quetta BL/Sur Var. 2	11	32.35	28.21	—	—	—	—	—	—	24	45.28	61.54	4	44.44	10.26	—	—	—	—	—	—	—	—	—	—	—	—	39	39.00
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—
	Main Ghundai Var. 1	1	2.94	20.00	—	—	—	—	—	—	4	7.55	80.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5.00
	Main Ghundai Var. 2	9	26.47	56.75	—	—	—	—	—	—	5	9.43	31.25	2	22.22	12.50	—	—	—	—	—	—	—	—	—	—	—	—	16	16.00
	Sub-Total	34	34.00	14.91	—	—	—	—	—	—	53	53.00	16.06	9	9.00	11.25	—	—	—	2	2.00	20.00	2	2.00	7.41	—	—	—	100	14.66
III A	Quetta BL/Sur Var. 1	8	32.00	14.55	—	—	—	—	—	—	28	71.79	50.91	9	75.00	16.36	—	—	—	—	—	—	6	75.00	10.91	4	100.00	4.27	55	62.50
	Quetta BL/Sur Var. 2	5	20.00	33.33	—	—	—	—	—	—	7	17.95	46.67	2	16.67	13.33	—	—	—	—	—	—	1	12.50	6.67	—	—	—	15	17.05
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—
	Main Ghundai Var. 1	5	20.00	55.56	—	—	—	—	—	—	3	7.69	33.33	—	—	—	—	—	—	—	—	—	1	12.50	11.11	—	—	—	9	10.23
	Main Ghundai Var. 2	7	28.00	77.78	—	—	—	—	—	—	1	2.56	11.11	1	8.33	11.11	—	—	—	—	—	—	—	—	—	—	—	—	9	10.23
	Sub-Total	25	28.41	10.96	—	—	—	—	—	—	39	44.32	11.82	12	13.64	15.00	—	—	—	—	—	—	8	9.09	29.63	4	4.55	57.14	88	12.90
II A	Quetta BL/Sur Var. 1	11	50.00	13.75	—	—	—	—	—	—	50	54.95	62.50	9	52.94	11.25	—	—	—	2	40.00	2.50	8	61.54	10.00	—	—	—	80	54.05
	Quetta BL/Sur Var. 2	6	27.27	15.39	—	—	—	—	—	—	25	27.47	64.10	5	29.41	2.82	—	—	—	1	20.00	2.56	2	15.38	513	—	—	—	39	26.35
	Said Qala Coarse	—	—	—	—	—	—	—	—	—	2	2.20	50.00	—	—	—	—	—	—	2	40.00	50.00	—	—	—	—	—	—	4	2.70
	Main Ghundai Var. 1	2	9.09	22.22	—	—	—	—	—	—	5	5.49	55.56	1	5.88	11.11	—	—	—	—	—	—	1	7.69	11.11	—	—	—	9	6.08
	Main Ghundai Var. 2	3	13.64	18.75	—	—	—	—	—	—	9	9.89	56.25	2	11.76	12.50	—	—	—	—	—	—	2	15.38	12.50	—	—	—	16	10.81
	Sub-Total	22	14.87	9.65	—	—	—	—	—	—	91	61.49	27.58	17	11.49	21.25	—	—	—	5	3.38	50.00	13	8.78	48.15	—	—	—	148	21.70
	Totals	228	33.43		—	—	—	—	—	—	330	48.39		80	11.73		—	—	—	10	1.47		27	3.96		7	1.03		682	100.00

Table 6. Attribute analysis of beaker, goblet, or small jar forms in Trench A. *P=Period *T=Type

Base Form		FLAT BASE						EXPANDED BASE						RING BASE			PEDESTAL BASE						DISH-ON-STAND				
		SIMPLE			CONCAVE			ANGULAR			SQUARED						SOLID			HOLLOW							
			% of Total per			% of Total per			%of Total Per			% of Total per			% of Total Per			% of Total Per			% of Total per			% of Total per			
Period	Type	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Quantity	P*	T*	Sub-Total	% of Total
IV	Quetta BL/Sur Var. 1	15	2.15	88.24	1	1.47	5.88	—	—	—	—	—	—	—	—	—	1	100.08	5.88	—	—	—	—	—	—	17	2.07
	Quetta BL/Sur Var. 2	75	10.75	87.21	8	11.77	9.30	3	8.57	3.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	86	10.46
	Quetta Slate Temper	9	1.29	81.82	1	1.47	9.09	1	2.86	9.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	1.34
	Said Qala Coarse	2	0.29	20.00	1	1.47	10.00	7	20.00	70.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	1.22
	Main Ghundai Var. 1	200	28.65	83.68	21	30.88	8.79	4	11.43	1.67	1	33.33	0.42	6	60.00	2.51	—	—	—	5	100.00	2.09	2	100.00	0.84	239	29.08
	Main Ghundai Var. 2	397	46.88	86.49	36	52.94	7.84	20	57.14	4.36	2	66.67	0.44	4	40.00	0.87	—	—	—	—	—	—	—	—	—	459	55.84
	Sub-Total	698	84.91	15.57	68	8.27	17.48	35	4.26	9.49	3	0.37	20.00	10	1.22	9.35	1	0.12	33.33	5	0.61	22.73	2	0.24	33.33	822	15.24
III D	Quetta BL/Sur Var. 1	25	2.03	89.29	1	0.94	3.57	1	1.16	3.57	1	33.33	3.57	—	—	—	—	—	—	—	—	—	—	—	—	28	1.91
	Quetta BL/Sur Var. 2	61	4.96	77.22	4	3.74	5.06	10	11.63	12.66	1	33.33	1.27	2	6.67	2.53	—	—	—	1	16.67	1.27	—	—	—	79	5.39
	Quetta Slate Temper	24	1.95	96.00	1	0.94	4.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	1.71
	Said Qala Coarse	11	0.89	20.00	11	10.28	20.00	33	38.37	60.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55	3.75
	Main Ghundai Var. 1	424	34.44	87.60	27	25.23	5.58	14	16.28	2.89	1	33.33	0.21	13	43.33	2.69	—	—	—	4	66.67	0.83	1	50.00	0.21	484	33.04
	Main Ghundai Var. 2	686	55.73	86.40	63	58.88	7.93	28	32.56	3.53	—	—	—	15	50.00	1.89	—	—	—	1	16.67	0.13	1	50.00	0.13	794	54.20
	Sub-Total	1231	84.03	27.43	107	7.30	27.51	86	5.87	23.31	3	0.20	20.00	30	2.05	28.04	—	—	—	6	0.41	27.27	2	0.14	33.33	1465	27.16
III C	Quetta BL/Sur Var. 1	7	1.16	87.50	—	—	—	—	—	—	1	20.00	12.50	—	—	—	—	—	—	—	—	—	—	—	—	8	1.12
	Quetta BL/Sur Var. 2	16	2.66	88.89	2	4.16	11.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	2.53
	Quetta Slate Temper	14	2.33	87.50	1	2.08	6.25	1	2.22	6.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16	2.25
	Said Qala Coarse	8	1.33	22.86	6	12.50	17.14	21	46.67	60.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	4.92
	Main Ghundai Var. 1	228	37.87	87.69	14	29.17	5.38	10	22.22	3.85	1	20.00	0.38	4	50.00	1.54	—	—	—	1	50.00	0.38	2	100.00	0.77	260	36.52
	Main Ghundai Var. 2	329	54.65	87.73	25	52.08	6.67	13	28.89	3.47	3	60.00	0.80	4	50.00	1.07	—	—	—	1	50.00	0.27	—	—	—	375	52.67
	Sub-Total	602	84.55	13.43	48	6.74	12.34	45	6.32	12.20	5	0.70	33.33	8	1.12	7.48	—	—	—	2	0.28	9.09	2	0.28	33.33	712	13.20
III B	Quetta BL/Sur Var. 1	5	1.02	83.33	1	2.27	16.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	1.01
	Quetta BL/Sur Var. 2	10	2.04	66.67	3	6.82	20.00	1	2.63	6.66	—	—	—	—	—	—	—	—	—	1	16.67	6.66	—	—	—	15	2.53
	Quetta Slate Temper	7	1.43	100.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	1.18
	Said Qala Coarse	11	2.24	24.45	10	22.73	22.22	24	63.16	53.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	45	7.59
	Main Ghundai Var. 1	160	32.59	83.77	14	31.82	7.33	7	18.42	3.67	1	50.00	0.52	7	58.33	3.67	—	—	—	2	33.33	1.05	—	—	—	191	32.21
	Main Ghundai Var. 2	298	60.69	90.58	16	36.36	4.86	6	15.79	1.82	1	50.00	0.30	5	41.67	1.52	—	—	—	3	50.00	0.91	—	—	—	329	55.48
	Sub-Total	491	82.80	10.95	44	7.42	11.31	38	6.41	10.30	2	0.34	13.33	12	2.02	11.21	—	—	—	6	1.01	27.27	—	—	—	593	11.00
III A	Quetta BL/Sur Var. 1	1	0.02	25.00	—	—	—	1	2.17	25.00	—	—	—	2	15.38	50.00	—	—	—	—	—	—	—	—	—	4	0.65
	Quetta BL/Sur Var. 2	21	4.15	80.77	3	6.12	11.54	2	4.35	7.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	4.22
	Quetta Slate Temper	20	3.95	95.24	—	—	—	1	2.17	4.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	3.41
	Said Qala Coarse	6	1.19	17.65	8	16.33	23.53	20	43.48	58.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34	5.52
	Main Ghundai Var. 1	181	35.77	85.78	13	26.53	6.16	10	21.74	4.74	—	—	—	6	46.15	2.84	1	100.00	0.47	—	—	—	—	—	—	211	34.25
	Main Ghundai Var. 2	277	54.74	86.56	25	51.02	7.81	12	26.09	3.75	1	100.00	0.31	5	38.46	1.56	—	—	—	—	—	—	—	—	—	320	51.95
	Sub-Total	506	82.14	11.29	49	7.96	12.60	46	7.47	12.47	1	0.16	6.67	13	2.11	12.15	1	0.16	33.33	—	—	—	—	—	—	616	11.42
II A	Quetta BL/Sur Var. 1	—	—	—	—	—	—	—	—	—	—	—	—	2	5.88	100.00	—	—	—	—	—	—	—	—	—	2	0.17
	Quetta BL/Sur Var. 2	9	0.94	75.00	1	1.37	8.33	—	—	—	1	100.00	8.33	1	2.94	8.33	—	—	—	—	—	—	—	—	—	12	1.01
	Quetta Slate Temper	2	0.21	100.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	0.17
	Said Qala Coarse	21	2.20	16.15	32	43.84	24.62	76	63.87	58.46	—	—	—	—	—	—	1	100.00	0.77	—	—	—	—	—	—	130	10.97
	Main Ghundai Var. 1	362	37.95	85.99	14	19.18	3.33	26	21.85	6.18	—	—	—	16	47.06	3.80	—	—	—	3	100.00	0.71	—	—	—	421	35.53
	Main Ghundai Var. 2	560	58.70	90.62	26	35.62	4.21	17	14.29	2.75	—	—	—	15	44.12	2.43	—	—	—	—	—	—	—	—	—	618	52.15
	Sub-Total	954	80.51	21.29	73	6.16	18.77	119	10.04	32.25	1	0.09	6.67	34	2.87	31.78	1	0.09	33.33	3	0.27	13.64	—	—	—	1185	21.97
	Total	4482	83.11		389	7.21		369	6.84		15	0.28		107	1.98		3	0.06		22	0.41		6	0.11		5393	100.00

Table 7. Attribute analysis of base forms in Trench A. *P—Period *T—Type

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